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Editor D. P. CHATTOPADHYAYA

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How is '(∃x) (x is necessarily greater than 7)' Possible ?

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The question raised by the title of this paper may also be put in the following way: how is quantification *into* a modal context possible? No doubt, W.V. Quine's[1] strong opposition to such intermingling of quantifiers with modal operators, as are obtained when a modal operator is placed within the scope of a quantifier, has raised a controversy. Certain considerations—logical and ontological—led Quine to maintain that quantified modal logic is paradoxical. To ask 'how is "(∃x) (x is necessarily greater than 7)" possible?' is to waver between alternatives, for this question reduces itself to two subquestions, viz.:

(1) How is '(∃x) (x is necessarily greater than 7)' logically feasible?
(2) How is '(∃x) (x is necessarily greater than 7)' metaphysically feasible?

Here, I would like to concentrate on the first alternative, i.e. how far '(∃x) (x is necessarily greater than 7)' is logically possible. However, it should not be supposed that the discussions regarding the metaphysical justification of quantified modal logic are either unimportant or uninteresting. What one cannot but feel is that the suspicion regarding the logical tenability of quantified modal logic has to be removed first. Of course, the logic that was born in the year 1946 out of intermingling of quantifiers with modal operators in a particular order has definitely survived, and certainly is fit to be a logic. Still, in the face of a strong opposition by W. V. Quine as found in many of his writings, this question requires a thorough overhauling. With that objective in view the present paper divides itself into three parts. In the first part, a thorough discussion and analysis have been made of the views of W. V. Quine who maintains that quantification into a modal context is either meaningless or false. The second part of this paper concentrates on different solutions that have been offered by different logicians and philosophers to show that there is no real paradox in a quantified modal logic. This is followed by a resumé, and that is the concluding part of this paper.

I

To outline 'the logical argument' of Quine, as we may call it, wherein he gives

*This paper is adapted from some portions of my Ph.D. dissertation entitled 'Some Philosophical Problems of Quantified Modal Logic'. I acknowledge my deep gratitude to my supervisor, Professor Pranab Kumer Sen, Jadavpur University, Calcutta.

certain formal reasons for rejecting quantified modal logic, is as follows: since it is not possible to quantify over expressions occupying referentially opaque positions, modal contexts which are also referentially opaque do not permit quantification.

The principle of substitutivity of identicals is supposed to be a test for deciding referential transparency or referential opacity of a singular term occurring in a sentence. The position for a singular term in a sentence is referential, if and only if the singular term is interchangeable with all its co-referential terms; on the other hand, the position for a singular term in a sentence is referentially opaque if the singular term is not so interchangeable. Now, we can see that the occurrence of the singular term, 'Aristotle' in the sentence " 'Aristotle' is a proper name" is referentially opaque. Similarly, in the sentence, " 'Tully' contains five letters", the position of 'Tully' is referentially opaque. The person called 'Tully' was also known as 'Cicero', so we see that the terms 'Tully' and 'Cicero' are co-designative terms, since both of the terms refer to one and the same person. The principle of substitutivity of identicals cannot be applied to the term 'Tully' occurring in the sentence " 'Tully' contains five letters". For the term 'Tully' cannot be replaced by the term 'Cicero' in this sentence. If we substitute 'Cicero' for 'Tully' in the sentence " 'Tully' contains five letters", we get the sentence " 'Cicero' contains five letters'. But in this instance substitution has failed, for the original sentnece is true, but the sentence resulting from such substitution is false. The word 'Cicero' does not contain five letters. Thus, from the failure of the principle of substitutivity of identicals it is evident that the position for the singular term 'Tully' in the sentence mentioned above is referentially opaque. In this example, 'Tully' does not refer to the object named by that expression. 'Tully' within quotes is the abbreviation of the expression, 'the word Tully" '.

A question may, however, arise at this point: how is it that Quine, who so seriously eliminates all singular terms,[3] formulates the criterion for deciding referential opacity in terms of the failure of the substitutivity of co-referential singular terms? Quine himself was aware of some such possible objections. So, in order to avoid reference to singular terms, a second criterion has been formulated by Quine. This second criterion is in terms of miscarriage of quantification. Thus, Quine's revised way of saying that the position for a singular term is opaque, or that it is transparent, is as follows: the position for a singular term in a sentence is referentially transparent, if and only if we can quantify over the term occurring in that position; and the position for a singular term in a sentence is referentially opaque, if and only if we cannot quantify over that term occurring in that position. This reminds us of one of the principles of Quine:[4] a word W is a name in the semantical sense of the term, if and only if quantification with respect to W is a valid form of inference. So it is clear that if a term does not designate, that is, the position for the term in a sentence is referentially opaque, quantification with respect to that term is not possible.

Let us consider the sentence: 'Tully was a Roman.' By replacing the term 'Tully' by a variable 'x' we get the open sentence

'x was a Roman'

Now this open sentence is fit for quantification. By adding an existential quantifier to this open sentence, we get the following sentence: '(∃x) (x was a Roman).' Translated in ordinary language, this sentence asserts: 'There is a person x, such that x was a Roman.' This is quite meaningful. So we see that in this instance, quantification with respect to the term 'Tully' is a valid form of inference. This shows that the position of the singular term 'Tully', in the above-mentioned sentence is referentially transparent.

Again, consider the position of the singular term 'Tully' in the sentence: " 'Tully' contains five letters". By replacing the term 'Tully' by a variable 'x', we get the open sentence: " 'x' contains five letters". Now, when we apply existential generalization to this open sentence, we get the sentence: "(∃x) ('x' contains five letters)." This is utter nonsense. For here 'x' within quotes stands for the 24th letter of the English alphabet; and it is in itself a letter, and so it is ridiculous to maintain that it contains five letters. Therefore, we see that quantification is not possible in this case. This is an instance of a false sentence preceded by an irrelevant quantifier. Thus, it is shown that the position of the term 'Tully' in the above-mentioned sentence is referentially opaque.

According to Quine, terms occurring in a modal context constitute another instance of referential opacity. That the terms occurring in a modal context is referentially opaque can easily be shown by using the criterion of the substitutivity of identicals. Though the terms '9' and 'the number of planets' are co-designative, we cannot replace the term 'the number of planets' for the term '9' in the sentence: '9 is necessarily greater than 7.' Here the principle of the substitutivity of identicals fails. It is false to maintain: 'The number of planets is necessarily greater than 7.' There is nothing in the number of planets to make it necessarily greater than 7. In this instance, therefore, we find that the truth-value of that sentence resulting from the substitution is altered. It is a mere contingent matter of fact that the number of planets happen to be 9. There would not be any logical impossibility in its being either more or less than 9. According to Quine, this failure of the substitutivity of co-designative terms establishes the referential opacity of the terms occurring in a modal context.

From all these observations follow the most important view of Quine that quantification into a modal context is not possible. Quine's suggestion is, therefore, that any attempt to quantify into a modal context has to be abandoned. Disregard of this suggestion has been shown to lead either to nonsense or to unintended sense. The sentence, '9 is necessarily greater than 7', yields by the application of the principle of existential generalization: '(∃x) (x is necessarily greater than 7).' Here, too, the question arises as to what this x is. If '(∃x) (x is necessarily greater than 7)' is true at all, then there is at least

one named or nameable object of which it is true that *that* object is necessarily greater than 7. But is there any such object at all, i.e. an object, *any* of whose names could be written in the place of x in the open sentence: 'x is necessarily greater than 7.' There is no such object—9, for example, is not such an object. If it were, we could replace '9' by its co-referential term, 'the number of planets' in that position. But we cannot do that.

Thus, according to Quine, this quantified formula, '(∃x) (x is necessarily greater than 7) ', would have been true if we could say that there is a number x, such that irrespective of how it is specified, it is necessarily greater than 7. The proposition, '(∃x) (x is necessarily greater than 7)', would not violate the principle of the substitutivity of identicals, if it can be shown that x, i.e. 9, has necessary greaterness than 7, independently of any particular mode of characterization. The point is that we cannot say that x, i.e. 9, is necessarily greater than 7 irrespective of any specification, for when we specify 9 as the number of planets and say that this number is necessarily greater than 7, then what we say is false. Quantification to be possible: demands that there be an object x which is so-and-so irrespective of any particular manner of specification. To say that an object x, which is so-and-so irrespective of any particular manner of specification, is to embrace essentialism, and this Quine finds to be metaphysically objectionable.

Thus, Quine maintains that '(∃x) (x is necessarily greater than 7)' is either meaningless or false. But the arguments which he puts forward are not conclusive. In the first place, it should be noted that being meaningless and being false are not the same thing. The question of truth and falsity is relevant only with respect to a formula that is meaningful. The way in which Quine argues does not show the construction to be meaningless. Quine occasionally says that quantification in modal contexts is meaningless, but he does not succeed in showing, nor does he try to show, that a quantified modal formula is meaningless, *because* it is not a well-formed formula.

Now, we have to consider in detail how far Quine's objections against quantified modal logic are acceptable. It is not, however, much difficult to see that Quine's arguments against quantified modal logic rest on a number of assumptions, either explicit or implicit. In the first place, Quine takes the objectual interpretation of quantification to be the only legitimate interpretation of quantification. Secondly, he takes modal context to be referentially opaque, since there is a failure of substitutivity of co-referential terms. He assumes the relation of contingent identity to be sufficient as the basis of the substitutivity of co-referential terms in any context whatsoever. The fourth point to note is that, according to Quine, substitution and existential generalization always go hand in hand. None of these assumptions are beyond doubt. The proponents, on the other hand, have tried to show that a *de re* modal statement, if properly understood, is free from the logical difficulties Quine finds in it. In the next part of this paper, I propose to discuss some solutions that have been offered by different proponents of this particular

development of modal logic. Those who seek to defend quantified modal logic do not offer, however, any unanimous solutions. Their solutions differ according as they call into question one or the other assumption of Quine. The proponents of this move may be classed broadly into two groups. Some are quite radical in their attitude, who call into question the very notion of quantification as understood by Quine. This is the approach sometimes taken by Ruth Barcan Marcus and Jaakko Hintikka.[6] On the other hand, there are some who seek to establish that quantified modal logic is possible, even if we agree with Quine that the objectual interpretation of quantification is the *only* interpretation of it.

II

Quine rejects the possibility of quantified modal logic, as we have already discussed, on the ground that the positions that are occupied by the singular terms in a modal context are referentially opaque. For, according to Quine, quantification in a context is possible only if it is referentially transparent. Ruth Barcan Marcus, to begin with, is one of those who do not accept the Quinean thesis that quantification is not possible in a modal context. Marcus proceeds to show that quantification *is* possible in an opaque context by interpreting quantification in an altogether different way from that of Quine. This is possible largely because, in the case of functional calculus, no clear-cut uniform interpretation regarding the nature of quantification is available. The logicians differ among themselves in at least *two* ways on the question, 'How to construe quantifiers', and accordingly we have two ways of interpreting quantification, viz.:

(1) The objectual interpretation of quantification or, in short, the objectual quantification; and
(2) The substitutional interpretation of quantification or, in short, the substitutional quantification.

Quine prefers the objectual interpretation of quantification. This is because only the objectual interpretation of quantification is supposed to preserve a close link with reality. The famous dictum of Quine,[7] as we know, is: 'To be is to be the value of a variable.' For, according to Quine,[8] a word W designates, if and only if existential generalization with respect to W is a valid form of inference. A consequence of Quine's theory is a first-order predicate calculus where only individual variables are admitted and which is not committed to the existence of property variables or proposition variables. Quine has shown that a singular term occurring in a modal context fails to refer to any object. And, for this reason, the existential generalization is not possible with respect to that term. Let us recapitulate the main points of Quine's argument once more. Now, 'x is necessarily greater than 7' is a sentential function. According to Quine, from this sentential function mentioned above we cannot infer '(∃x) (x is necessarily greater than 7)'; that is, we cannot infer there is something, which is necessarily greater than 7. For, here, the question

arises: what is this object? Is it 9, i.e. the number of planets? But to suppose this is to conflict with the fact. Hence Quine concludes that quantification is not possible in a modal context.

Marcus, however, does not find any reason for upholding the objectual interpretation of quantification to be the only possible interpretation. Rather, Marcus considers the substitutional interpretation of quantification to be one of the fruitful interpretations of quantification. What is novel about this substitutional interpretation of quantification? Like the objectual quantification, the substitutional quantification is also a way of obtaining a sentence from a sentential function. But the objectual quantification and the substitutional quantification are different so far as procedures are concerned by which a sentence is obtained from a sentential function. The difference between these two sorts of interpretation of quantification will be evident if we carefully consider some examples. Suppose there is a sentential function 'x is human'. Now, in the case of the objectual quantification either by adding a universal quantifier or an existential quantifier, we may obtain the following two sentences:

(1) For all x, x is human.
(2) For some x, x is human.

or to put it in symbols 1'. (x) (Hx)
2'. (∃x) (Hx)

On the other hand, in the substitutional quantification, as its very name suggests, stress is on the substitution instances. The substitutional quantification is a way of obtaining sentences from a sentential function by describing it in terms of its true substitution instances. In the case of the substitutional interpretation of quantification, the universal quantifier '(x)' and the existential quantifier '(∃x)' are interpreted respectively as follows:

(1) All substitution instances of 'Fx' are true.
(2) Some substitution instances of 'Fx' are true.

Given a sentential function 'x is human', we can characterize this sentential function in either of two ways:

(1) All substitution instances of 'x is human' are true sentences.
(2) Some substitution instances of 'x is human' are true sentences.

Thus, we see all or some of the substitution instances of a given sentential function, may be said to be true. However, to say that all or some substitution instances of a sentential function are true is to presuppose that there *are* actually substitution instances, all of which or some of which are true. Now, given any sentential function, say, 'Fx', we have to see what the substitution instances are that can be derived from it. The substitution instances of a sentential function are the result of replacing the variable occurring in that sentential function by a name. Sometimes, it may happen that all the substitution instances of a sentential function are true. If, in terms of *all* of those true substitution instances, the sentential function is described, we get the

sentence: 'All the substitution instances of the sentential function "Fx" are true.' Again, it may sometimes happen that some of the substitution instances of a given sentential function are true. Naturally, in this case, the sentence that is obtained by characterizing the sentential function is different; here, we get the sentence: 'Some substitution instances of the sentential function "Fx" are true.' What we have said can be expressed more elaborately by saying: there is a name (or at least one name) such that, when the name is written in place of the variable "x" in the sentential function, 'x is human,' the result is a true sentence.

From what has been said so far a careful observation will reveal an important point of distinction between the objectual quantification and the substitutional quantification. In the case of the objectual quantification, we are required to use the sentential function to get a sentence; whereas, in the case of the substitutional quantification, a sentence is obtained by characterizing the sentential function in terms of its true substitution instances.[9] This is somewhat like using a word, say, 'table' to obtain the sentence 'the table is brown', and also characterizing the word 'table', as 'having five letters' to obtain the sentence 'the word "table" has five letters'.

It may be objected that the substitutional quantification has no link with reality, hence it is futile to interpret quantification substitutionally. In the case of the substitutional quantification, our concern is only with some linguistic entities. Therefore, those sentences that are obtained through substitutional quantification have nothing to do with reality. Such objections are, however, based on certain misconceptions, because all the sentences that we obtain by the substitutional quantification are the result of the characterization of the sentential function in terms of its true substitution instances. Therefore, we see that in this case prior to characterizing a sentential function in terms of its true substitution instances we must have some idea as to whether the resulting substitution instances are true or not. The moment we talk about the truth and falsity of the substitution instances the context of reality definitely comes in. If we are confined to linguistic entity only, the question of truth and falsity cannot arise at all. Therefore, those who think that the substitutional quantification is devoid of reference to reality are mistaken. The substitutional interpretation of quantification itself can be of two sorts.[10]

(1) It is possible that substitution is taken in a purely linguistic or syntactical manner. The whole of our previous discussion is about this type of substitution.
(2) But it is also possible, as Marcus points out, substitution is understood in terms of such ontological categories as individuals, properties, etc. within the framework of substitutional quantification.

P. K. Sen elaborates the technical details of the substitutional quantification taken in its second sense. We have already noticed that the sentence, 'There is some substitution instance of the sentential function "x is human" which is a true sentence', says the same as 'There is a name such that when

the name is written in place of the variable "x" in the sentential function "x is human" the result is a true sentence.' In this case, we can understand substitution instances in terms of some ontological categories so that it is not totally devoid of any reference to object. This is as follows:

> There is an individual (or at least one individual) such that, when the name of that individual is written in place of the variable 'x' in the sentential function 'x is human', the result is a sentence which is true.[11]

At this point, however, an important question may arise: are these linguistic and non-linguistic versions of the substitutional quantification equivalent? This is quite doubtful. These two sentences that we have obtained from the sentential function 'x is human' by the substitutional quantification would be logically equivalent, only if we can maintain: (*a*) for every individual there is a name; and also (*b*) for every name there is an individual. Similarly, the two sentences that we may obtain from the sentential function, 'Socrates *F*' by the substitutional quantification are logically equivalent, only if we could establish a correlation between properties and predicates.

From the above discussion the following points emerge: in the first place, we see that the substitutional quantification can be understood in two ways: either as being concerned exclusively with linguistic entities or as having some extra-linguistic reference as well. In the second place, however, we see that if substitution is taken as linguistic characterization it is beyond all controversy; but when substitution is understood in terms of ontological categories it is not equally uncontroversial. Thirdly, we see that substitution, even if understood in terms of linguistic entities alone, cannot be said to be totally devoid of extralinguistic reference. For, in this case, there is a reference to truth. And the notion of truth fails to make any sense unless it is taken to involve some extra-linguistic reference.

What is more important for our purpose is that, if we interpret quantification substitutionally, we can easily apply it to a modal context as well. Quine's main objection is that a modal context exhibits referential opacity, so quantification is not possible. But when quantification is interpreted substitutionally, we need not maintain any distinction between positions that are referentially transparent and the positions that are referentially opaque. If quantification is thus understood, we can have existential generalization with respect to a word W even if it does not designate any object. So, Marcus thinks that, though a modal context is referentially opaque, we can have existential generalization in this case. Hence, for Marcus, the supposed paradox is really non-existent. Let us consider the following sentential function: 'x is necessarily greater than 7.' From the above sentential function we can obtain by substitutional quantification: "there is some substitution instance of the sentential function, 'x is necessarily greater than 7' which is a true sentence." What can be the substitution instance here? We can see that there is a name such that when it is written in place of the variable 'x' in the sentential function

'x is necessarily greater than 7'., the result is a sentence which is true. Thus, if we write '9' in place of 'x' in the sentential function mentioned above, we get '9 is necessarily greater than 7'. Hence we find that there is at least one substitution instance of the sentential function, 'x is necessarily greater than 7' which is true. So, Marcus concludes that we can have quantified modal logic.

This substitutional interpretation of quantification is not merely an ad hoc device on the part of Marcus to save quantified modal logic. Marcus discusses in detail in her paper 'Interpreting Quantification'[12] different advantages of this substitutional interpretation of quantification.

Quine, however, does not find the substitutional view of quantification to be so smooth sailing as its supporters claim it to be. According to Quine, there are some serious drawbacks of the substitutional quantification. To quote Quine,[13] 'To take it as substitutional would require assuming in our language a name, or some uniquely designating expression, for every individual, every creature or particle, however, obscure and remote; and this would be artificial at best.' Secondly, Quine points out that if there be any unspecifiable object, the substitutional quantification is bound to fail. According to classical mathematics, as Quine argues, the real numbers are non-denumerably infinite, but there can be only denumerably many expressions—be it simple or complex; so, if quantification is construed substitutionally, we cannot have quantification over real numbers. But, Quine points out, if quantification is interpreted objectually, there would not be any difficulty in having quantification over real numbers.

Let us consider how far Quine's argument against the substitutional quantification is acceptable. So far as the first argument of Quine is concerned, we can see clearly that it depends on certain presupporitions: in the first place, Quine presupposes that for substitutional quantification to be valid every object should have a name. Secondly, Quine thinks that, even if it be possible to assign a name to every object, that would be an artificial device. Now, what is a substitutional quantification? Given a sentence-frame 'x is human', we obtain by the substitutional quantification the sentence

(1) Every substitution instance of 'x is human' is true.

When we are called upon to explain further what do we mean by the 'substitution instance', we express it as follows: it is the result of writing any name in place of the variable 'x' in the open sentence 'x is human'. So it appears that Quine is right in so far as he holds that for substitutional quantification to be valid every object should have a name. But why Quine calls it 'to be an artificial device' is not clear. In a sense, all names are given artificially. Let us consider a naming ceremony. Supposing a man wants to name his baby. His wife say: 'Let us call him "John"'. The man agrees. Thus, the baby is named 'John'. But can we maintain that because this naming ceremony is an artificial way of conferring a name on an object, viz. a baby, this name 'John' is no name at all? Perhaps, Quine would also not like to maintain anything like this.

We may now turn to a consideration of Quine's second objection to substitutional quantification. The objection can be formulated in the form of an argument as follows:

PREMISE 1. Since there can be only denumerably many names which can be substituted for 'x', there can be only denumerably many substitution instances of 'ϕx'.

PREMISE 2. Objects of some domains are non-denumerably many, e.g. real numbers.

CONCLUSION. If there is a quantification over objects in such a domain, say, over real numbers, this quantification cannot be interpreted substitutionally.

Here, too, Quine's objection rests on certain questionable assumptions. In the first place, Quine maintains that real numbers are non-denumerably many. But the idea of non-denumerable infinity itself is controversial. However, for the sake of argument, we may grant this premise to Quine. Still, Quine's conclusion is not acceptable.

Quine further assumes that names of objects are to be as numerous as the objects themselves, if the objects are to be nameable at all. Quine supposes that there must be a one-one correspondence between objects and names like this:

0_1	N_1
0_2	N_2
0_3	N_3
0_4	N_4

But we can see that it is gratuitous to suppose that this must be the case. We should not demand that there be any such one-one correspondence between names and objects. It is not necessary to assign names to all individuals at a time. We can, and usually do, name objects as and when necessary, and we do not *have* to use a new name each time. Rather, it is often the case that we call different objects by one and the same name. 'John' may be the name of a boy of age four, of an old man and also the name of my neighbour's pet dog. We are not assigning here a different name to each object. In fact, a realistic view of the relation between objects and names is not that it is one-one, but that it is many-one.

Further we can see that

(1) Every substitution of 'ϕx' is true, means:

(2) For all S, if S is (used as) a substitution instance of 'ϕx', then S is true.

In order to be able to say 1 or 2, it is not necessary that we should be able to assign a different name to every object. It seems that Quine does not take seriously the difference between being able to assert 1 or 2 and being able to assert the following:

ϕa. ϕb. ϕc. ϕd

We may elaborate our point as follows.

The quantified sentence 'Every substitution instance of "ϕx" is true' can be read as 'For all *S*, if *S* is a substitution instance of "ϕx", then *S* is true', where '*S*' is a variable ranging over sentences as values and the quantification over '*S*' itself, by contrast with the quantification over '*x*', is objectual. Thus understood, the quantified sentence is *not* committed to the actual existence of any substitution instance of 'ϕx', although it is committed to the actual existence of sentence, just as the quantified sentence, 'For all *x*, if *x* is a freely moving body, then *x*, never comes to a rest', is not committed to the actual existence of freely moving bodies, although it is to the actual existence of individuals. Thus, under this interpretation, a universal *substitutional* quantification over real numbers, or any non-denumerably infinite set of objects, will be taken to make a *conditional* assertion to the effect that 'if a sentence is a substitution instance of 'ϕx' with respect to any of these non-denumerably infinite objects, *then* the sentence is true. *This* conditional assertion can be true, even if there does not *actually* exist a substitution instance of 'ϕx' with respect to each of these non-denumerably infinite objects. Therefore, we can see that we do not have any ground for accepting Quine's view.

We must acknowledge, however, that our treatment of substitutional quantification has not been adequate. But this need not detain us, for defending substitutional quantification is only one of the ways of defending quantification in modal contexts.

Hintikka, too, does not find any real paradox in quantified modal logic. He endeavours to find out actually what is meant by saying that quantification is not possible into a modal context. What are the obstacles on the way of having quantified modal logic? To find an answer to this question, we need to discuss, first, a positive instance where quantification is possible. This will enable us to elaborate the conditions, on fulfilment of which quantification would be possible. While arguing for quantified modal logic, Hintikka does not subscribe to an altogether different sense of quantification from that of Quine. What he wants to point out is that the objectual quantification has been unnecessarily linked up with certain other presuppositions. This will be clear if we closely analyse the Quinean argument to dethrone quantified modal logic. Quine discovered a close link between a name and existence. For, according to Quine, from the semantical point of view, not every singular term which has the grammatical form of a designator is a name, but only those expressions which do actually designate are so. Variables replace names and are replaceable by names. So Quine further concludes that a word W designates *iff* existential generalization with respect to W is a valid form of inference. So, according to Quine, quantification is not possible with respect to any and every singular term. We can apply quantification only to those terms that really designate some object or other. According to Quine, quantification is not possible with respect to empty singular terms or such terms which, because of the very peculiarity of the context in which they occur, fail to refer to the object. Thus understood, quantification has an existential pre-

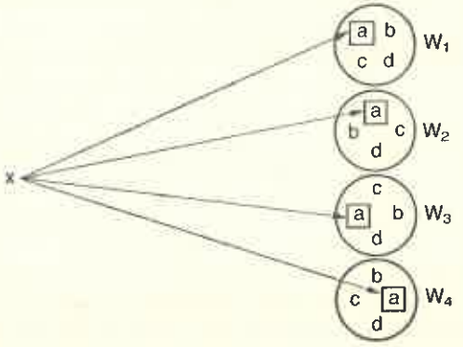
supposition. This 'existential presupposition is', as Hintikka puts it, 'a presupposition to the effect that a singular term to be substitutable by a variable, must stand for what exists.'[14]

Hintikka considers this existential presupposition to be one of the unwarranted assumptions made about quantification, and he wants to dissociate this 'existential presupposition' from the notion of quantification. This existential presupposition of quantification may not raise any problem so long as we are confined to the descriptive uses of the language. Unfortunately, however, we do not always remain confined to the realm of the descriptive uses of the language. Rather, sometimes we like to say what would have happened if a particular individual did not exist, and there is nothing illogical in our saying some such thing. Hence we see that the need for eliminating existential presupposition is the need for talking about individuals that do not exist in the actual world.

However, even if we succeed in dissociating the existential presupposition of quantification, that would not by itself solve the problem of combining modality with quantification. Those who believe that quantification has an existential presupposition demand further that the substitution value of a bound individual variable must be a singular term which refers to some well-defined individual or object. Hintikka calls this 'the uniqueness presupposition'[15] of quantification. The point becomes clear if we consider Quine's argument for the impossibility of quantification in a modal context. Quine argues that we cannot apply existential quantification to the open sentence, 'x is necessarily greater than 7'. By applying existential quantification we shall obtain the sentence, '($\exists$x) (x is necessarily greater than 7)', which, in plain words, states that there is some (unique) object which is necessarily greater than 7. But this cannot be maintained in a modal context. Quine supposes that the presupposition of uniqueness pertains to the very notion of quantification; and since this presupposition of uniqueness cannot be fulfilled in a modal context, it is held that quantified modal logic is not possible. Hintikka, however, wants to dispense with this presupposition of uniqueness as well in a modal context. To quote Hintikka: 'What one needs in the theory of modal logics is in my opinion quite literally a presuppositionless logic or "free logic", (to use this unfortunate label), namely a logic without[16] presuppositions of uniqueness.'

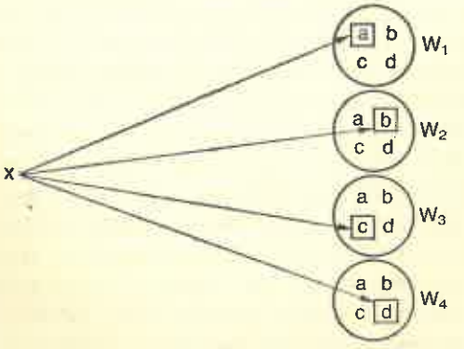
Why is it that there is a failure of the presupposition of uniqueness in a modal context? Hintikka sees very clearly that there is an *ambiguity in reference* of a singular term occurring in a modal context. And this ambiguity in reference of a singular term presents serious problems to modal logic. The problem is that, as Hintikka shows clearly, there are at least two distinct ways in which a singular term refers to its object. A singular term (occurring in the subject position of a sentence) may have either a simple (or unique) reference or multiple reference. When a singular term refers to one and the same individual in different possible worlds, that singular term is said to have

unique reference. A singular term x will be said to have an unique reference if that singular term x refers to an object, say, a, not only in the actual world W, but also in all other possible worlds $W_1, W_2, W_3, \ldots W_n$. We may represent Hintikka's notion of unique reference picturesquely as follows:



In this diagram, 'x' stands for the singular term, '→' indicates reference of the singular term, and 'a' has been put in a square to indicate that it is the referent of x in different possible worlds. W_1, W_2, W_3, W_4, are different possible worlds.

But this is not the only way in which a singular term may refer to its object. Often a singular term refers, but not to one and the same individual in different possible worlds. When a singular term has multiple reference, the referent of the singular term is not fixed. Or, to put it more technically, under circumstances of its multiple reference, the referent of the singular term cannot be said to be any well-defined individual. Hintikka's notion of multiple reference can be represented picturesquely as follows:



In this diagram, 'x' stands for the singular term, '→' represents reference. Letters that are in squares stand for the referent of 'x' in different possible worlds, and W_1, W_2, W_3 and W_4 represent different possible worlds.

Hence we see that a modal statement in which a singular term occurs may have either unique reference or multiple reference. So such modal statements must also admit of alternative interpretations accordingly as the referring function of the singular term is understood.

Thus, the controversial sentence, 'The number of planets is necessarily greater than 7', is amenable to two alternative interpretations accordingly as the singular term, 'the number of planets', has either unique reference or multiple reference. Now, in this world of ours, the number of planets is 9. Hence we see that, in this actual world, the singular term, 'the number of planets', refers to 9. If this singular term refers to 9 not only in this actual world, but also in W_2, W_3 and W_4, then the reference of the singular term can be said to be a well-defined individual.

But we have already pointed out that there is another alternative way of referring to a singular term. It is true that, in this actual world, the number of planets is 9. But, in other possible worlds, the number of planets may be four, five or any other number. So the term 'the number of planets' may refer to 5 in W_2, 4 in W_3, and so on. Thus, the term, 'the number of planets', refers to different things in different possible worlds. Therefore, we see that a singular term may have multiple reference, and, thus, fail to have uniqueness of reference. It is this fact that a singular term sometimes refers to more than one object that creates the paradox. Two terms, say, 'a' and 'b', may refer to one and the same individual in the actual world, thus making the identity 'a = b' true, but may fail to refer to the same object in some other world. In this case, 'a' and 'b' can fail to be intersubstitutible. The terms, 'the number of planets' and '9', refer to the same individual in the actual world, and this makes the identity 'the number of planets = 9' true in the actual world. But, in some other world, where the number of planets is either more or less than 9, the terms, 'the number of planets' and '9', will not be intersubstitutible for one another in that world. Hence the identity 'the number of planets = 9' also fail to be true in that world. Therefore, we see that multiplicity of reference of a singular term is an obstacle on the way of having quantified modal logic, because that demands that the identity be true in all possible worlds, not only in the actual. At least, this is the way in which Quine argues. For, as we have already pointed out, there is, according to Quine, a presupposition of uniqueness associated with quantification. Under the different courses of events that are possible in different possible worlds, the term, 'the number of planets', would refer to different numbers. Hence we cannot go from a statement, however true, about these different individuals to a statement that says that there is some (unique) object, of which the property of being necessarily greater than 7 is true.

So Hintikka suggests that the condition for the quantifier has to be modified, and this uniqueness presuppositon of quantification has to be eliminated. If we eliminate the uniqueness presupposition of the quantification, then it will no longer be required to maintain that the substitution value of a bound individual variable be some well-defined individual. In that case, we can as well take any individual that is not well defined to be the substitution value of the bound individual variable. So even when the term 'the number of planets' refers to different individuals in different worlds, there is no difficulty in having quantification. For when we say

$$(\exists x)\ (x \text{ is necessarily greater than } 7)$$

we mean only that there is some object (non-unique, i.e. an object which may be different in different worlds) of which the same is true.

These are the arguments by which sometimes Hintikka and sometimes Marcus try to defend quantified modal logic. But one should not fail to notice here that these defensive arguments, either of Marcus or of Hintikka, propose some vital changes in the framework from which Quine opposes. Quine actually does not say anything about the possibility or impossibility of substitutional quantification in a modal context. Neither Quine is eager to develop a presuppositionless logic of quantification as proposed by Hintikka. Hence it may be asked by some whether these logicians really succeed in refuting Quine's arguments. However, even if any such objection is raised, we need not be at a loss to defend modal logic. That is, even by retaining objectual interpretation of quantification along with its uniqueness presupposition, we can show that '$(\exists x)$ (x is necessarily greater than 7)' is neither meaningless nor false.

All the hues and cries regarding the paradox in a quantified modal logic were raised, because Quine and other anti-modalists failed to notice that there are some basic differences between an extensional point of view and a modal point of view. Generally speaking, Arthur Smullyan,[17] F. B. Fitch,[18] Hintikka,[19] Marcus[20] and many others capitalized over this weakness of Quine. In particular, Smullyan and Fitch draw our attention to the fact, which Quine failed to notice, that a proper description behaves differently in a modal context from an extensional context. Again Ruth B. Marcus, Hintikka and Prior[21] find that the principle of substitutivity, on the basis of which substitution of co-referential terms are made, in a modal context, has to be founded on a stronger notion of identity than in an extensional context.

Smullyan, Fitch, etc. salvaged quantified modal logic by showing that the apparent paradox is due to the scope-ambiguity of the descriptive phrase occurring in a modal context. In the cited example, we find that a descriptive

phrase occurs with a modal operator in the same sentence. So, unless the scope of the descriptive phrase is clearly stated, ambiguity persists, and the alleged paradox arises. As shown earlier, the critics of quantified modal logic argue that, in this case, from the propositions:

(1) 'The number of planets = 9', and,
(2) 'It is necessary that 9 is greater than 7';
(3) We derive the conclusion: 'It is necessary that the number of planets is greater than 7.'

Smullyan does not deny that this conclusion is false. Rather, he traces back the falsity of this conclusion to the scope ambiguity of the descriptive phrase, viz. 'the number of planets' occurring in the conclusion. Whether the occurrence of the description is primary or secondary in this instance has to be made explicit. In the absence of any clear statement regarding the scope of the description, its occurrence in a sentence is amenable to more than one interpretation. The intended sense of the sentence may not be conveyed, if we consider any one of the alternatives at random. Actually, this is what happens in a modal context. Thus, the conclusion, 'It is necessary that the number of planets is greater than 7', may mean any one of the following:

(*a*) As a matter of fact, the number of planets is such that it is necessarily greater than 7.
(b) It is necessary that the number of planets is greater than 7.

In (*a*), the description, 'the number of planets', has a primary occurrence and has a wider scope in the sentence. But in (*b*), it is clear that the same description, 'the number of planets', has a different kind of occurrence. In (*b*), the description has a secondary occurrence, having a narrower scope in the sentence.

The critics of quantified modal logic overlook this ambiguity lurking in the conclusion: 'It is necessary that the number of planets is greater than 7.' They take the conclusion at its face value. But thus interpreted, i.e. when a description occurring in a proposition is given a narrower scope, the proposition is false. Smullyan shows that the argument to be valid should stand as follows:

(1) The number of planets = 9.
(2) It is necessary that 9 is greater than 7.

(3) Therefore, (as a matter of fact) the number of planets is such that it is necessarily greater than 7.

Thus we see that in this instance the proposition containing the descriptive phrase and a modal operator is true, provided the description has a primary occurrence.

But why do some people fail to notice that a descriptive phrase occurring with a modal operator induces scope-ambiguity? It would not be totally justified to say that, since these critics are accustomed to extensional logic, they fail to notice that a description may sometimes induce scope-ambiguity, for none of the extensionalists deny that the descriptive phrase, 'the present King of France', induces scope-ambiguity. It is realized by Russell and Whitehead that it is necessary to indicate unambiguously the scope of a description in each of such cases. An example may illustrate the point: 'The present King of France is not bald'.

Two interpretations of this sentence are possible as the description, 'the present King of France', has either a primary occurrence or a secondary occurrence.

(*a*) 'The present King of France is not bald' may be read as, 'It is not the case that the present King of France is bald.' In this case, 'x' in the propositional function, 'x is bald,' is substituted by 'the present King of France is bald', and then the result is denied. So, in this case, the scope of the description does not cover the whole of the proposition in which it occurs. This is a secondary occurrence of the description, hence it is narrower in scope. Here negation enjoys a wider scope. In this interpretation of description, the above-mentioned proposition is true.
(*b*) Another interpretation of this description is possible. This interpretation provides a primary occurrence to the description and thus understood the sentence may be read as: 'The present King of France is such that he is not bald.' According to this interpretation, the description, 'the present King of France', has a wider scope. But in this reading of the scope of the description, the above proposition is false.

But in the truth-functional context, the scope of the description is not at all important when $(\imath x)$ (Fx) exists. The description where $(\imath x)$ (Fx) exists may be said to be a proper description. 'The present prime minister of India' is a proper description, whereas 'the present king of India' cannot be said to be a proper description. If a description is a proper description and is contained in a truth-functional proposition, then it does not induce any scope-ambiguity. With respect to a truth-functional proposition containing a proper description, it is irrelevant whether we interpret that description as having either a primary occurrence or a secondary occurrence therein. For a truth-

functional proposition containing a proper description has the same truth-value in either interpretations. Bertrand Russell and A. N. Whitehead maintain[22] in their *Principia Mathematica*: 'It will be seen further that when E ! (ιx) (Fx) we may enlarge or diminish the scope of (ιx) (Fx) as much as we please without altering the truth-value of any proposition in which it occurs.' Under these circumstances (ιx) (Fx) behaves like a logically proper name.

Let us concentrate on the following examples for further clarifications. 'The present prime minister of India' is a description and, indeed, a proper description. 'The present prime minister of India is not bald' is an instance, where a proper description occurs in a truth-functional context. We can interpret this proposition containing a description in two ways by giving either a primary occurrence or a secondary occurrence to the description.

(1) When we give a wider scope to the description, 'the present Prime Minister of India', we obtain the following proposition: 'The present Prime Minister of India is such that he is not bald.' In this proposition the description, 'the present Prime Minister of India', enjoys a primary occurrence. This proposition is true.
(2) The descriptive phrase, 'the present Prime Minister of India', has a secondary occurrence, for it is given a narrower scope in the proposition: 'It is not the case that the present Prime Minister of India is bald.' But in this interpretation also the above-mentioned proposition is true.

Now, what is so far stated and explained on behalf of the extensionalists is uncontroversial. It is a fact that a description, when it is not a proper description occurring in a truth-functional context; does induce scope-ambiguity; whereas a proper description occurring in a truth-functional context does not at all lead to scope-ambiguity. From the above observations regarding the behaviour of descriptions occurring in a truth-functional context, they were led to generalize that a proper description does not induce any scope-ambiguity in any context whatsoever. In this, they are, however, not at all justified. In fact, no parallel can be drawn between a proper description occurring in a truth-functional context and a modal context. That even a proper description can induce scope-ambiguity is something of which extensional logicians were not aware. So Quine and others, failed to see from their extensional point of view, that a proper description like 'the number of planets' induces scopeambiguity. Possibly on this account they did not take into consideration the implications of scope-ambiguity of the terms like 'the number of planets' in modal context. This I think it is one of the greatest achievements of Smullyan and Fitch to draw our attention to the difference between an extensional point of view and a modal point of view. In a modal context whether a description is proper or not is immaterial for any and every description *does* induce scope-ambiguity. This account of scope-ambiguity as given by Smullyan and Fitch cannot, however, be regarded as complete. For they

did not discuss anything about the proper name and its occurrence in a modal context. Saul Kripke[23] utilizes the notion of scope-ambiguity. According to Kripke, Smullyan and Fitch are right in so far as what they have said. But Kripke felt that there are certain other features of the Russellian theory that need to be rectified in order to accommodate quantified modal logic. Kripke thinks that Russell is mistaken in his view regarding the nature of ordinary proper names.

For Russell ordinary proper names are more like descriptions. In the first place, both descriptions and ordinary proper names may lack denotation. But logical proper names are, according to Russell, such that they can never lack denotation.

In the second place, when an ordinary proper name or definite description does not lack denotation there is no scope-ambiguity. A logically proper name, on the other hand, never lacks a denotation, so there is no scope-ambiguity. That is why a logically proper name can be taken in either of two ways, i.e. we can give it either a wider-scope interpretation or a narrower-scope interpretation. And, in either interpretation the proposition containing a logically proper name is true. This reflects, according to Russell, that the logical behaviour of a description and an ordinary proper name is the same. That is why Russell maintained that ordinary proper names are 'truncated descriptions'.

Kripke, however, does not accept the Russellian view that ordinary proper names are 'truncated descriptions'. Kripke considers Russellian view to be entirely wrong. According to Kripke, it is not the case that ordinary proper names induce scope-ambiguity. It is only a description that does so. The same thing can be put in other words by saying that descriptions induce *de re*/*de dicto* ambiguities in a modal context, while proper names, including the ordinary ones, do not. This notion of scope-ambiguity is, in fact, closely related to the *de re*/*de dicto* modal distinctions. Because there is scope-ambiguity in a modal context, we have two interpretations of modal propositions either as *de re* or as *de dicto*. When a description has a wider scope, the modal operator has a narrower scope. Let us consider our example again: 'The number of planets is necessarily greater than 7'. If it is taken to be true as meaning 'the number of planets is such that it is necessarily greater than 7', the definite description, 'the number of planets', is understood to have a wider scope. Here we are saying of *the number*, which is (i.e. happens to be) the number of planets, that it has the property of being greater, and necessarily greater, than 7. This is, therefore, a clear instance of *de re* modality. The Latin phrase '*de re*' implies that in this variety modals qualify the thing about which something is said.

When a description has a narrower scope, the modal operator has a wider scope. To take an example; 'It is necessary that the number of planets is greater than 7.' In this instance, the description, 'the number of planets', has a narrower scope. Here a modal property attaches to the whole of the pro-

position. Such, a case as this is known as a *de dicto* case. Kripke thinks that this sort of *de re/de dicto* ambiguity is not present in cases of proper names. This is because names are rigid designators; but descriptions are not generally rigid designators. What does it mean to be a rigid designator? According to Kripke, a rigid designator is such that if it denotes anything, then it denotes that thing in every possible world (in which the thing exists). But descriptions, and so the description, 'the teacher of Alexander', may denote Aristotle in one world but some other person in another world.

So, according to Kripke, a proper name, being a rigid designator, has no sense, and thus only refers to an object. As a result, the occurrence of a proper name in a modal sentence admits of only one, viz. the *de re* interpretation. Michael Dummett[24], however, does not agree with Kripke in maintaining that names are rigid disignators. We have already hinted at the semantical role of rigid designators: rigid designators do not induce *de re/de dicto* ambiguity. In order to establish his point, M. Dummett seeks to present certain counter-examples to the Kripkean theories that proper names are rigid designators. In this connection, Dummett refers to those names which have corresponding descriptions exhausting everything that we know about the bearer of the names.

Therefore, it appears reasonable to maintain that not all names but some names are 'desguised descriptions'. In this connection, we can point out that Russell's view that proper names are 'disguised descriptions' appears to be at least partially true. Under this circumstance, a need may be felt for modifying Kripke's thesis. According to this modified form, the conclusion seems to be that not all names are rigid designators; some names are non-rigid-designators; and they do induce *de re/ de dicto* ambiguity. Kripke, however, does not favour this sort of modification. Keith S. Donnellan, in one of his latest papers, 'The Contingent: a priori and Rigid Designators' very nicely synchronizes the view of Kripke with that of Dummett. Donnellan discusses two alternative ways in which a name can be introduced: (*a*) a name can be introduced as a rigid designator by using a description; (*b*) a name can be introduced as a mere abbreviation of a description.

There is an excellent elucidation of this point in the article, 'The Necessary and the *A priori*' by P.K. Sen. A description by means of which a proper name is introduced can be said *merely to fix the reference of a proper name* and not to give its meaning, only if it is not *essential* that the proper name should be introduced by means of the description which is actually used to introduce it. If it is essential that the proper name should be introduced by a certain description, that is, there is not other means by which it could be introduced, then we cannot say that the description *merely* fixes the reference of the name. In fact, if the name is essentially introduced by a description, the description does give the name its meaning, and in that case, the name *can* be said to be a 'disguised description'. Donnellan, however, admits that, in an actual case, it is difficult to decide whether a name has been introduced by means of a

description as a rigid designator or as an abbreviation of a description. There is no conclusive argument to establish which the point is. There is nothing like general linguistic intentions, so that the point can be decided from a mere look at the proper names. In the absence of any explicit stipulation for whether or not the name shall be taken as a rigid designator, one is at liberty to take it in either way. These two possibilities, that the name is a rigid designator and that it is an abbreviation of a description yield difference 'in the predicted status of a certain sentence'. But this is not a 'usable difference' as Donnellan himself remarks. To quote Donnellan: '. . .it would be indeterminate whether a name introduced by means of a description is a rigid designator or an abbreviation so long as the name continues to be pegged to the description.' This observation, however, does not cast any doubt on the thesis that names in general are rigid designators.

Now, let us try to sum up the main conclusion we have arrived at in this section. Beginning with Smullyan we have traversed a long path. And by now it seems quite clear that we have found a definite anszer to the supposed paradox of quantified modal logic. This notion of scope-ambiguity proves to be a wonderful tool in the hands of the modal logicians. It is Smullyan who deserves the special credit for drawing our attention to the peculiar behavoiur of descriptive phrases, especially in quantified modal cotext. But Smullyans' answer to the supposed paradox is incomplete. What are we to say when the same paradox is shown to be involved in a proper sentence? Kripke, as we have seen, tackles this problem quite successfully from his own special point of view.

From the above discussion, following two important points emerge:

(1) We can have *de re* modal propositions with descriptions. Smullyan hits rightly on this point.
(2) We can have *de re* modal propositions with proper names. In this respect, the contribution of Kripke to our understanding of quantified modal logic is enormous.

So we see that the very possibility of quantified modal logic is nothing but the possibility of *de re* modal proposition. A *de re* modal proposition can be either with a description occupying the subject position or with a proper name occupying the same position. Hence we see that quantified modal logic is possible.

Ruth Barcan Marcus also notices that extensional logic and modal logic are different; so an extensional point of view cannot be co-extensive with a modal point of view. This simple truth has been ignored by those who seek to explain a modal context from the point of view of an extensionalist. Those who make a fuss over the paradoxes of quantified modal logic forget the limitations of the extensionality principle and make it the basic principle of substitution in modal contexts as well. This is really objectionable. In this case,

two completely distinct issues have been mixed up, and as a consequence of that the supposed paradox arises in quantified modal logic. In fact, the following two issues need to be clearly distinguished:

(*a*) If identity is taken to mean the relation of material equivalence and if the principle of substitution is defined in terms of the above sense of identity, then the question as to whether the principle of substitution does apply to modal logic cannot arise at all.

(*b*) If we want to discuss the question as to whether the principle of substitutivity can be applied to modal logic, then the notion of identity cannot be so restricted as to take it to be the same as the relation of material equivalence (which, by its very essence, excludes nontruth-functional and intentional contexts).

Coming to save quantified modal logic, Marcus adopts the second alternative course described above. She feels the need for redefining the concept of identity, i.e. she sees that our conception of the relation of identity has to be changed in such a manner that it is freed from the narrower point of view of the extensionalists. In fact, she attempts to defend quantified modal logic by exposing the absurdity of adopting the point of view of an extensionalist in modal logic.

Hence she brings in the concept of necessary identity. Marcus remarks: 'That principle seems intuitively obvious to me for if the notion of necessity makes any sense, what could be more obvious than that necessarily a thing is the same as itself...'[25] Hence we see that the relation of necessary identity is presumed to function as identity in quantified modal context. But how does it solve the puzzle and the paradox? From the first observation of Marcus follows the second, which is of no less importance. If the relation of identity is taken to mean the relation of necessary identity, the principle of substitution has to be recast accordingly. Naturally, the earlier formulation of the principle of substitution, as it is presented by the extensionalists, is bound to be unsatisfactory. In a modal context, the relation of strict equivalence or necessary identity has to be made the basis for the substitution of any two co-designative terms. Marcus reformulates the principle of substitution as follows:

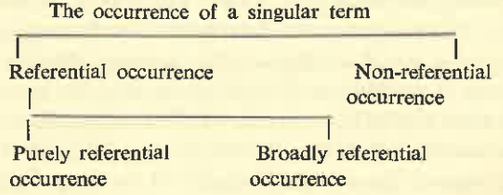
> Given $P \equiv Q$, P is not everywhere interchangeable with Q, but only in restricted non-modal contexts. Given $N(P \equiv Q)$, then the substitution theorem is unrestricted.[26]

It should be noted that, in this formulation, Marcus also makes an extraordinary use of the notion of strict equivalence, supposing it to hold also between terms as well as propositions. However, as in the case of the relation of material equivalence, so also in this case, this unconventional sense of the relation of strict equivalence is not totally unrelated to its ordinary sense. It

appears that, according to Marcus, the terms t_1 and t_2 are strictly equivalent, if and only if all sentences which are obtainable from each other by a simple replacement of t_1 by t_2 or t_2 by t_1, are strictly equivalent. So we see that, in some contexts, material equivalence is enough for identity, i.e. in those contexts we can assert $t_1 = t_2$ on the ground that the relation of material equivalence obtains. Again, in some contexts, strict equivalence alone is enough for identity, i.e. in those contexts we can assert $t_1 = t_2$ only on the ground that the relation of strict equivalene obtains. So it is not at all difficult to see that there is a difference between the substitution conditions that are required for the relation of material equivalene and those required for the relation of strict equivalene.

It is not only Marcus but also Kripke, Prior, Hintikka and many others felt the need for the relation of necessary identity as the basis of substitution in a modal context. Prior demands that there be a genuine identity behind the substitution that is being done in a modal context.

From the writings of Smullyan and Marcus what is clear is that substitution need not present any problem to a modal context. Even so, supposing substitution fails in a modal context that does not stand on the way of existential generalization. What I propose to discuss in the present section is that the supposed association of existential generalization with substitution is a myth. To elaborate this point some clarification is sought regarding the different kinds of positions that a singular term may occupy in a sentence. This also opens up another way to show that quantification is possible in a modal context. We can indicate different uses of a singular term in a sentence in the following chart:



A term can be said to be used purely referentially when its one and only use is to refer to the object to which it is supposed to refer. Thus in the sentence, 'Giorgione is a chess-player', the term 'Giorgione' refers to the person Giorgione. The only function that is being performed by the term 'Giorgione' in this sentence is that of referring. It does not have any other role to play. So this can be characterized as a purely referential use of the term 'Giorgione'.

This purely referential use of the term 'Giorgione' can be contrasted with the 'non-referential' use of the same term in another sentence. Let us consider the sentence: ' "Giorgione" contains 9 letters.' This occurrence of the term 'Giorgione' is in sharp contrast with its earlier use. In this case the term

'Giorgione' does not refer to the person Giorgione, it refers to itself; and we are saying something about the term itself. This use of the term 'Giorgione' is said to be non-referential, for in this use the term does not refer to the person Giorgione at all. Thus we can put the matter as follows: a term is said to be used non-referentially when it is not used to, and does not refer to, the object.

But, apart from these two uses, there can be a third use of a singular term. Though Quine himself hinted at this use of a singular term, he failed unfortunately to realize the great importance of this use of the term, and thus remained unaware of the different implications of this third sort of use of a singular term. We can collect an example of such an intermediate use of the term 'Giorgione' from Quine himself. "'Giorgione' was so called because of his size"[27] is one such example of an intermediate use of the singular term. Now we know that 'Giorgione' and 'Barbarelli' are co-referential terms. But in the above sentence we cannot substitute the term 'Barbarelli' for the term 'Giorgione'. For, if we so substitute, we obtain the sentence, 'Barbarelli is so called because of his size,' and that is certainly false. Now a question may arise as to why the principle of substitutivity fails to apply in this case. If a context is non-referential, then, of course, the principle of substitutivity of co-referential term would fail. But we cannot call the occurrence of the term 'Giorgione' in the sentence, 'Giorgione was so called because of his size, to be a non-referential occurrence. For here the term 'Giorgione' does refer to the person, to Giorgione. The sentence does not mean: the term 'Giorgione' was so called because of his size. Here we are not saying anything about the term, we are saying something about the person. As we have already pointed out, Quine himself characterized such occurrence only as not being purely referential. So we find that there is a sort of occurrence of a singular term that is neither non-referential nor purely referentical. We may coin the term 'the broadly referential use of a singular term' to mean this sort of occurrence of a singular term. If we analyse the role of the singular term in this sentence, its difference from the earlier two roles will because evident. We have already seen that we cannot substitute 'Barbarelli' for the term 'Giorgione' in the sentence, 'Giorgione was so called because of his size.' Now, why is this so? The phrase 'so called' is a device of natural language to avoid repetition. We can, however, recast the above sentence to bring out clearly its logical force. Thus recast, the sentence stands as follows: 'Giorgione was called "Giorgione" because of his size.' In this sentence, "Giorgione' refers to the person Giorgione and *also* conveys certain other informations as to why Giorgione was called 'Giorgione.'[28]

This really opens up the way to delinking existential generalization from substitutivity.[29] Once we see that failure of substitutivity does not necessarily imply failure of reference, it is not too difficult to see that it does not necessarily imply failure of existential generalization either. However, in the particular example of broadly referential use as we have discussed existential

generalization fails. It is true that from 'Giorgione was so called because of his size' we cannot infer '(∃x)(x is so called becuase of his size)', since it is not clear what 'so called' would mean in this quantified sentence. However, in the present case also, we can secure existential generalization, by paraphrasing 'Giorgione was so called because of his size' into 'Giorgione was called "Giorgione" because of his size'. From the latter sentence we *can* derive '(∃x) (x was called "Giorgione" because of his size).'

Hence we see that there are instances in which existential generalization is possible, in spite of the fact that substitution of co-referential terms is not. This lesson may be carried to modal context as well. Let us consider the sentence: '9 is necessarily greater than 7.' Here the occurrence of the singular term '9' is said to be referentially opaque. Quine argues that in this instance inter-substitution of two co-referential terms '9' and 'the number of planets' is not possible for such substitution yields falsity. Since the context is thus referentially opaque, the singular term mentioned herein does not refer to any object as such, and so Quine finally concludes that existential generalization is not possible in a modal context either.

The point that emerges clearly from the preceding discussion is that the way in which Quine analyses the proposition '9 is necessarily greater than 7' is not correct. In the light of what we have said so far, we see that merely from the failure of the principle of substitutivity it does not follow that the context is referentially opaque; for, we have already shown that substitution is possible provided the singular terms occupying the subject position have a 'pure reference' to the object. Hence from the failure of the substitution of co-referential terms we may conclude that a modal context is such that a singular term does not have a pure reference to the object. But it is totally unjustified to jump from this to the conclusion that since an occurrence of a singular term in a sentence is *not purely* referential it *cannot be* referential at all. Such a conclusion would have been valid if there were only two possibilities regarding the occurrence of a singular term in a sentence. But we have tried to establish that with respect to the types of occurrence for a singular term our choice is not restricted to two; to recollect there are at least three possibilities, viz.

(*a*) The purely referential occurrence;
(*b*) The broadly referential occurrence; and
(*c*) Non-referential occurrence.

We may concede this much to Quine that the occurrence of the term '9' in the sentence '9 is necessarily greater than 7' is not purely referential. But, certainly, here the occurrence of the term '9' is *not* non-referential or opaque either. We can take this occurrence of 9 to be broadly referential. In this case, it cannot be said that the term '9' has no reference altogether; what we can find is that the term '9' has a broadly referential use, for it *does* refer to the

number 9. The term is here not used purely to refer to the object, but does some other function; it indicates or suggests, though not actually states, *why or how* 9 is greater than 7.

But we do not find any problem in these instances about existential generalization. We can well apply the rule of existential generalization. The assertion that a condition is satisfied by some named individual implies the assertion that the condition is satisfied by *at least one* individual. Now when a singular term is said to have a broadly referential occurrence as it does not fail to refer, there is no reference failure either. We can put the matter as follows: since the assertion of necessary greaterness than 7 is true of a named object, the assertion of necessary greaterness than 7 is true of *at least one* object. This amounts to saying: '$(\exists x)$ (x is necessarily greater than 7)' is neither meaningless nor false. Therefore, we see that *de re* modal sentences are possible.

III

Let us recapitulate some of the main points once more to see where do we stand. To establish that quantified modal logic involves a paradox Quine has offered two distinct arguments. One is what we have called 'the logical argument', and the other is what we have called 'the metaphysical argument'. In the present paper, as I have already made it clear, my concern is only with 'the logical argument' of Quine. So far as this 'logical argument' of Quine is concerned, we find that Quine gives certain formal reasons for rejecting quantified modal logic. To put it very briefly, Quine's argument is as follows: since a modal context is referentially opaque, we can neither apply the principle of substitutivity of co-referential terms nor the principle of existential generalization. But from what we have said so far it is clear that this argument of Quine fails. The proponents of quantified modal logic have shown conclusively, in my opinion, that there is no real paradox in quantified modal logic. They have succeeded in showing that a *de re* modal statement, if properly understood, is free from logical difficulties found by Quine. In this connection, I have discussed some of the following solutions that have been offered by different logicians and philosophers:

(1) It has been shown that by accepting a substitutional interpretation of quantification one can have quantified modal logic. In this connection, the name of Ruth Barcan Marcus comes first to the mind.
(2) Jaakko Hintikka wants modal logic to be one of the free logics in the sense of being especially free from existential presupposition and uniqueness presupposition. He shows that, thus understood, quantified modal logic is possible.
(3) Occurrence of a singular term in a *de re* modal statement leads to ambiguity according as it is taken to have a purely referential use or a broadly referential use. The supposed paradox arises, if this ambiguity in the referring function of a singular term is overlooked and the failure of substitutivity of co-referential terms is taken to mean only referential opacity.
(4) Smullyan and Fitch salvaged quantified modal logic by showing that the apparent paradox is due to the scope ambiguity of proper descriptive phrases occurring in a modal context.
(5) Again Dagfinn Føllesdal has argued that a modal context is referentially transparent if a singular term keeps its reference fixed as we pass from the actual world to other possible worlds.
(6) Some have shown that substitution of co-designative terms does not fail in a modal context if we take the relation of necessary identity as the basis of the substitution. This is the way in which Marcus, Prior, Kripke, Hintikka and many others argue.

There may be many other solutions. But I have considered some of these major solutions, and I think that these are enough to refute Quine's charge against quantified modal logic. Some of the solutions that I have discussed show quantification to be possible in a modal context by totally changing the Quinean notion of quantification. In this connection, we can recollect Marcus' suggestion to interpret quantification substitutionally or that of Hintikka to modify the conditions of quantifiers by eliminating the presupposition of uniqueness supposed to be associated with the notion of quantification. However, as these arguments propose some vital changes in the framework within which Quine moves, so it may be argued by some that these proponents of quantified modal logic have not really succeeded in refuting Quine's arguments. But, if any such objection is raised, we need not be at a loss to defend modal logic. For, among the solutions that I have discussed, only the first and the second are of this type.

We can also discover a point of affinity among the remaining four solutions. Apparently, these are four *distinct* solutions. At least, it does not appear to be the same to say that we can have quantified modal logic,

(1) if a singular term occurring in a *de re* modal proposition is taken to have a referential use;
(2) if the singular term keeps its reference fixed as we pass from this actual world to other possible worlds;
(3) if we take the scope of a definite description occurring in a *de re* proposition to be larger than that of the modal operator; and
(4) if we take the relation of necessary identity as the basis of the principle of substitutivity in a modal context.

What I propose to establish further is that these four solutions that have been offered to solve the supposed paradox of quantified modal logic are basically the same.

Let us begin with Quine's example: '9 is necessarily greater than 7.'

The possibility of quantified modal logic is bound up with a *de re* understanding of this modal proposition. For the questions that are asked again and again are whether we can substitute the term '9' by the term 'the number of planets' to get the sentence, 'The number of planets is necessarily greater than 7', and whether we can infer from the above proposition by existential generalization '(∃x) (x is necessarily greater than 7)'. According to Quine, as we know, cannot, because these resulting propositions are false. On the other hand, following Marcus, Prior, Smullyan, Fitch, Hintikka, Kripke, Fφllesdal and many others we find that the propositions—'The number of planets is necessarily greater than 7' and '(∃x) (x is necessarily greater than 7)'—are true.

If we carefully observe these four different solutions, we can see that all of them agree in some common points. These solutions agree in holding that the charge of paradox arises against quantified modal logic mainly because of the *de re/de dicto ambiguity* of the proposition 'The number of planets is necessarily greater than 7'; and most of them maintain, at least by implication, that the paradox is further caused by the fact that *even as a de re* proposition it suffers from another ambiguity.

Following Donnellan, it can be shown that the singular term, 'the number of planets', may either have a referential use (or purely referential use) or an attributive use (or so-called broadly referential use). Why did Quine suppose that the substitutivity of co-designative terms fails in a modal context? If a singular term is said to have an attributive use, then the attribute of being so-and-so is important. But when a definite description can be said to have a referential use, it is enough if the singular term succeeds in referring to the desired object. In that case, even if the description misfits the object, that does not matter much. Quine's error lies in his failure to realize that even in its *de re* interpretation, the proposition, 'The number of planets is necessarily greater than 7', is ambiguous. Inits attributive use the phrase, 'the number of planets' is supposed to be necessarily greater than 7 *as* being the number of planets. So, we see, in this case the attribute of being the number of planets is all important. Certainly, the number of planets cannot be said to be necessarily greater than 7 by virtue of being the number of planets. For it is only a contingent matter of fact that the number of planets happen to be nine. So, in the case of an attributive use of the singular terms, substitution of co-designative terms, viz. 'the number of planets' and '9', is not possible. If a singular term had one use and that was its attributive use only, then we would have no other alternative than accepting the thesis that the substitution of co-designative terms is not possible in a modal context. But, fortunately, that is not the case. Furthermore, it would be noted that, though in this instance the substitution fails, yet there is no failure of existential generalization. A singular term may also have a referential use. When a singular term like 'the number of planets' is taken in its referential use, we can have both substitution and existential generalization.

When the term 'the number of planets', is used referentially, it refers to a particular object which the speaker has in his mind in using the description. Thus, in this case, the speaker has a particular object in mind, viz. 9. Even if the number of planets is 10 in our actual world, we can substitute the term 'the number of planets', by the term '9'. If assertion of necessary greaterness than 7 is true of a named *object*, then assertion of necessary greaterness than 7 is true of the same object under a different name or description, and also the assertion is true of *at least one object*. That is, '(∃x) (x is necessarily greater than 7)' is true. We can express our modal proposition unambiguously to bring out the referential use of the description as: 'The number that just happens to be the number of planets is necessarily greater than 7.'

This immediately reminds us of Smullyan who deserves the credit for showing that the supposed paradox arises for Quine failed to notice that proper descriptive phrases induce scope ambiguity in a modal context. According to Smullyan, the proposition, 'The number of planets is necessarily greater than 7', may be read either as:

(1) It is necessary that the number of planets is greater than 7, or as
(2) The number of planets is such that it is necessarily greater than 7.

In proposition no. 1, the descriptive phrase 'the number of planets', has a narrower scope, and the modal operator has a wider scope. When the proposition is interpreted in this way, thus by giving the descriptive phrase a secondary occurrence, it is certainly false. For, as we know, it is only a contingent matter of fact that the number of planets is 9. If it were the case that whenever a descriptive phrase occurred in a modal proposition the modal operator should have a secondary occurrence, then we would have no other alternative than accepting Quine's position as final. Luckily, however, this is not the case. A descriptive phrase occurring in a modal proposition may also have a primary occurrence in that proposition. Thus, when the description is given the wider scope as in the proposition no. 2, no such paradox arises. For here the intended interpretation is as follows: as a matter of fact, the number of planets is such that it is necessarily greater than 7. From this we can obtain by existential generalization the proposition: (∃x) (x is necessarily greater than 7). If Quine asks once more; 'What is this object x?' then we can answer '9', i.e. the number that happens to be the number of planets.

Thirdly, Quine has argued that in a modal context we cannot substitute the term, 'the number of planets', for '9'. But this argument fails to take note of the ambiguity lurking in the identity proposition 'the number of planets = 9'. This identity statement can be taken to express either contingent identity or necessary identity. In modal logic we have to consider an individual as a member of different possible worlds. The term, 'the number of planets', may refer to 9 in W_1, to 8 in W_2 to 7 in W_3, and so on. If it does so, we cannot say that there is a necessary identity between the number of planets and 9. Neither

can we say in this case that the reference of the term, 'the number of planets', is fixed. What we have here is clearly an instance of multiple reference of a singular term, and we cannot say that here is any well-defined object which is necessarily greater than 7; and this is why existential generalization fails in this case. But this phrase, 'the number of planets', can be so understood as to have unique reference. If, on the other hand, the phrase, 'the number of planets', refers to 9 not only in the actual world, but also in all other possible worlds, we can say that the phrase, 'the number of planets', has unique reference; and, in that case, we can also say that there is a necessary identity between 'the number of planets' and '9'. Thus, the intended interpretation of the proposition, 'The number of planets is necessarily 9', is the 'The number which happens to be the number of planets is 9 in all possible worlds'. That is, here the stress is on *the number*, that happens to be the number of planets *qua the number of planets*. And, for *this* reason we can substitute the term, 'the number of planets', for '9'. Since there is a well-defined individual that satisfies the given condition we can maintain: '(∃x) (x is necessarily greater than 7).'

Thus we see that the main conclusion of all these solutions is the same. According to these different solutions, we can have intersubstitution of co-designative terms and can apply the principle of existential generalization to a modal proposition like '9 is necessarily greater than 7', if the intended interpretation of this sentence is 'as a matter of fact, the number *that* numbers the planets, is necessarily greater than 7'. And we can have this interpretation of the modal proposition, provided that we take the singular term, 'the number of planets', to have a referential use; and that is so when the occurrence of the descriptive phrase has a larger scope and when consequently we can assert a necessary identity between 'the number of planets' and its co-referential term, the reference of the term 'the number of planets' now being fixed in all possible worlds including the actual. In other words, it is only then '(∃x) (x is necessarily greater than 7)' is possible, and we can have quantified modal logic.

Notes

1. W. V. Quine, Reference and Modality, pp. 139-59.
2. Ruth Barcan Marcus's paper, 'A Functional Calculus of First Order Based on Strict Implication', pp. 1-16.
3. See Quine, *Word and Object*, pp. 181-86.
4. Quine, 'Designation and Existence', and also 'On What There Is', p. 13.
5. R.B. Marcus, 'Interpreting Quantification', pp. 252-59.
6. J. Hintikka, *Models for Modalities*.
7. See Quine's paper, 'Designation and Existence' in *Readings in Philosophical Analysis*, Feigl and Sellars (eds.), p. 50.
8. Ibid.

9. Section II of P. K. Sen, 'Variables and Quantification'.
10. Ibid.
11. P. K. Sen, 'Variables and Quantification'.
12. See R. B. Marcus, 'Interpreting Quantification', pp. 254-55.
13. W. V. Quine, 'Reply to Professor Marcus' in *The Ways of Paradox and Other Essays*, pp. 182-83.
14. Hintikka in 'Existential Presuppositions and Their Elimination', p. 27.
15. Hintikka, 'Existential and Uniqueness Presupposition', pp. 125-26.
16. Ibid., p. 114.
17. A. F. Smullyan, 'Modality and Description', pp. 35-43.
18. F. Fitch, 'The Problem of the Morning Star and the Evening Star', pp. 81-95.
19. Hintikka, *Models for Modalities*.
20. R. B. Marcus, 'Extensionality', pp. 44-51.
21. A. N. Prior, 'Is the Concept of Referential Opacity Really Necessary?', p. 195.
22. *Principia Mathematica*, Vol. I, p. 70.
23. Saul Kripke, 'Naming and Necessity'.
24. Michael Dummett, *Frege: Philosophy of Language*, Appendix to Ch. 5.
25. R. B. Marcus, 'Comment', p. 132.
26. R. B. Marcus, 'Extensionality', p. 50.
27. Quine, 'Reference and Modality', p. 140.
28. Connected with the distinction between the purely referential use and the broadly referential use, there is a difference between two kinds of predication. Professor Pranab Kumar Sen, made me aware of this point. A comparison can be drawn with Donnellan's distinction between a referential use of a description and on attributive use of a description as found in his 'Reference and Definite Descriptions'.
29. This is suggested by Professor Pranab Kumar Sen.

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Epistemological ontology and the special sciences: An interaction-theoretic argument against relativism*

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> Independent of race, people see within the same range of light waves, hear within the same range or acoustic frequency, and everything seems to speak in favour of their having the same range of psychological present. Also people have a common situation in the world, structured by the recurrence of days and nights, the succession of seasons, the cycles of human development and life.—L. BIELAWSKI (1981 : 178)

How elusive are the abstract concepts of truth, existence, meaning and rationality? I think that the relativists—notably the family resemblance theorists—should know better than any one else. But relativism is itself a highly elusive doctrine, since it tends to assume different forms in the varying contexts such as the epistemological, methodological, ontological, semantical, linguistic or translational, social-anthropological and the like.[1] At the epistemological-ontological level, the deeper questions concerning scientific knowledge that we might ask are as follows: (1) What is the epistemic structural identity of science?; and (2) what makes it the kind of unique rational enterprise that it is? In what follows, I shall try to deal with these very questions but outside a relativistic framework.[2]

In the social-anthropological context on the other hand, we might ask: What assumptions—relativist or nonrelativist—about the nature of the *native's* own conception of reality, rationality and meaning must an enterprising anthropologist make if he is to be able to understand a culture which is not his own. The question assumes a special significance if he is to be able to understand, identify and then appraise the ritual beliefs that dominate the *style* of living of a primitive society. This question may be seen in its important philosophical aspects but it is not a philosophical question pure and simple. This can be seen by introducing the complication that must arise if the native's language happens to be a hitherto untouched one—a jungle language, as it were, in Quine's sense. To our original question we would have to add then another as follows: What assumptions must the social anthropologist make about the native's language before he embarks on his multiple enterprise of *translating* and *understanding/identifying* their ordinary and ritual beliefs? It seems to me that the foremost *constraint*, under which one must make whatever assumptions one makes, has to do with the very *possibility* of the whole enterprise of interpreting and understanding another culture, however alien it might be. This consideration strongly hints at an incoherence deeply

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hidden in relativism taken as a family of philosophical doctrines. For even if the social anthropologist may be so extremely relativistically inclined as to strategically suspend all judgements and all translations and instead undertake the daily *soaking-exercise* of living as an "insider" with a view to eventually coming out with a better ability to translate and understand the native's beliefs, the only reason why he should do so will be his unstated assumption as follows: The natives' language and their way of life (*Lebensform*) are *learnable* in *the same sense* in which languages or ways of life elsewhere are. An assumption as far-reaching as this, as I shall argue as we proceed, seriously undermines relativism.

I believe that there is no single doctrine called "relativism", since there are different doctrines each of which may be regarded as a form of relativism. Their common basis, if any, is to be found in their shared scepticism concerning the possibility of any rational enterprise that could truly aim at producing objective knowledge which is susceptible to growth under two chief types of constraint, viz.: (1) Those that may not be universal but that are internal to the enterprise itself; and (2) those that are universal and for that very reason external to it. Notice that relativisms start all with the same basic assumptions as essentialism, viz.: That there are radically *different* cognitively oriented communities and/or belief-systems, each operating with (*a*) concepts/*conceptions* of objective reality, of truth and of meaning on the one hand and (*b*) *standards* of evaluation on the other, that are *internal* and unique to each such system. It is at this stage of basic epistemological-ontological assumption that relativisms are indistinguishable from essentialism. They inherit a common framework in which concern is shown with traditional epistemological categories such as objective reality/existence, truth, meaning/understanding and their standards of evaluation. In this way, relativisms rule out *certain* (external) constraints without ruling out all of them. For in this very process they themselves inherit the same frameworks which they seek to undermine. The real challenge to them comes from possible alternatives to these pre-existent traditional frameworks in which we tend to look at everything in terms of the pre-conceived categories (of universal truth, objective reality and meaning) that are not subject to any law of variation whatever. In so far as relativisms seek to relativize the same older familiar categories to varying cultural or pragmatical contexts, they amount to attempts at putting old wine into new bottles. Whereas what we need really is either our old wine in old bottles or new wine in new bottles.

It is then as their next step that essentialism, the arch-rival, is sought to be suppressed and attacked by claiming that each of the belief-systems or cognitively oriented communities has, among other things, the following properties:

(*A*) That it is a self-maintaining, self-sufficient *privileged* system in so far as it uniquely divides all "human beings" into the sharply divided classes, viz.: the *insiders* and the *outsiders*, where only the former has a privileged access to the "concepts" and standards characteristic of that system.

(*B*) That, as a corollary of (*A*), no two or more such systems need or can ever engage in direct causal interaction with each other, there being no common ground or common *external* constraints valid for all of them.

(*C*) That, therefore, each such system *invariably* either issues or supports *imperatives* as general in scope as the following as regards the class of "outsiders": If you want to *understand* the system $S_1/\ S_2/\ S_3/\ S_4/\ldots$, the one and only one way to doing that is to be guided by the formula: Become one among the "insiders"!

Now it is one thing to recognize that there are different cultures, languages, sciences and scientific theories or paradigms; and then to require that *each* must be understood and/or evaluated in terms of standards internal to it without recourse to anything else. But it is altogether a different matter to recognize the great divide between these and then to require that there be significant interactions between them if *each* is to grow according to a rational pattern instead of stagnating or collapsing under its own increasing weight. In either case, the fundamental question which remains unasked in the midst of all the heat and dust generated by the recent relativist—nonrelativist controversy may be raised as follows: What is the nature of that *framework* which enables us all—relativists and nonrelativists alike—to make the same basic *identifications* of a universal character? What is that basic discipline which enables us to make even the common starting assumption—which is quite realistic and reasonable to make—that there exist different languages and different cultures, each possessing a distinctive identity and character of its own, on the one hand; and that different, even incompatible theories are possible within the *same* individual science, where each possesses a distinctive framework of its own on the other? I believe that without making this common universal, though synchronic, assumption as to what sorts of subjects of philosophical reflection exist, no subject-specific philosophical or scientific study would ever be possible. Contrary to all appearances, it is not a trivial assumption to make. For what is sought to be identified or recognized in this assumption are *systems* or structures that make a whole ontologically significant realm waiting for us, as it were, to be studied and known at a higher level of epistemological organization.

I think that it is not so easy to answer this question as it is to ask it. Nevertheless, I would like to offer the following thesis as an answer: It is epistemological ontology[3], as we might call it, which enables us to make the kind of assumptions of a universal nature exemplified by the assumption above concerning the ontological diversity of *systems* that really embody type-distinct cognitively significant structures relating man, the problem-solver, to nature—i.e. to systems of a natural order. It might be argued that this assump-

tion is just synchronic in character, since it speaks of certain types of entities as if these were structures or systems of a static nature. Epistemological ontology, as I conceive of it, goes a step further to admit also diversity among these systems which is of a diachronic nature. Thus it says: In so far as these systems (*i*) show a certain *intentionality* in relating man, the problem-solver, to systems of a natural order and (*ii*) allow *transformations* to take place within themselves as a function of the intra-and-inter-systemic interactions, they are growing systems that must be studied synchronically and diachronically as well. This twin-identification of epistemological-ontological significance, once made and recognized, raises then a host of problems. For example, consider the following: (1) What is the nature of the cognitively oriented systems such as the different languages and cultures or belief-systems on the one hand and that of systems as abstract as scientific theories on the other? (2) What is the nature of their intentionality or referential function, if any? (3) What is their nature considered as growing systems? (4) What levels and laws of interaction, if any, do they obey? And so forth.

Now it might be argued at this point that by making the assumptions that it makes and by giving rise to types of *what*-questions that it in fact does raise, epistemological ontology itself shows its clear commitment to essentialism in the methodological sense of this term. And, therefore, in this sense it is from the very outset prejudiced against relativism in all its various forms. Could we not give up essentialism by looking just for the *differences* in place of that common factor which seems to characterize all the systems of epistemological-ontological interest to us? Could we not then search just for something closely akin to Wittgensteinian "family resemblances", no matter how infirm or chaotic these might finally turn out to be? My answer to this is as follows: No, we cannot afford to do so. Essentialism, in a methodological sense[4], must stay with us as a basic ideologically neutral framework. And if I am right, and if it does stay with us until a better alternative is found, it will be primarily because it is quite unlike the Wittgensteinian family-resemblance framework or the supposed relativist framework in that the latter is, in my view at least, heavily loaded with ideological elements borrowed from sources such as the game theory or, in a weaker sense, from the ideology of analogical method as the method that allegedly leads to truth. My own methodological commitment to essentialism may be understood in a liberal sense in which it is not only of inter-disciplinary application and relevance—from the sciences to philosophy—but is also supported by the following conjecture of mine: That among the factors essentially common to different systems under consideration there are certain basic forms of learning in which are rooted the significant intra-systemic interactions of considerable epistemological ontological interest to us. Methodological essentialism in my sense is in its turn rooted in these intra-systemic interactions.

Epistemological ontology recognizes, as I have indicated, a whole realm of type-distinct cognitively oriented systems in all their synchronic and diachronic diversity. But at the same time it also recognizes their common factors such as (1) the inter-systemic interactions; (2) the intra-systemic interactions that are rooted in *forms of learning* common to all the systems whatever; and (3) the systems-specific intentionality (=referential function) that relates man, the problem-solver, to the extra-systemic realm constituting those vast systems of a natural order which we call nature. But what does relativism, in all its different forms and with scepticism as its basis, make of all this? Can it make sense of all this? I have serious doubts here. Relativisms are all bundles of contradictions or absurdities wherever they raise their head. For what is it to "understand" or "evaluate" a system in terms of standards *internal* to it? Is the "insider" one who is absolutely immune to inter-systemic interactions and susceptible only to intra-systemic interactions? Is the "prospective insider" so absolutely free from assumptions and frameworks inheritable from other "alien" systems as to follow the relativist prescriptions such as those of a Peter Winch or Thomas Kuhn to their logical conclusion? Or is he, on the contrary, so loaded and equipped beforehand as to *anchor* his enterprise of understanding the *given* system *in* the inter-systemic interactions, among other factors? If we decide to take relativisms seriously enough, then we must unlearn all those finer distinctions and basic conceptualizations in absence of which no systems other than one's own "shell-system" would be given to our intuition or understanding at any level whatever. If the answer to this last question is in the affirmative, as it ought to be, the answer to the preceding questions must then be in the negative.

Let us consider relativism as a hypothesis in so far as it implies that every *individual* society/cultural community divides *all* people uniquely into two sharp categories, viz.: "the insiders" and "the outsiders". Let us call it the hypothesis of the great *divide*. Now is it an empirical hypothesis? If it is then it should be testable. How does one go about one's job of testing such a hypothesis? Can we specify a procedure or an experiment which aims at either its falsification or its confirmation? The only theoretical possibility is via (1) cross-cultural learnability assumptions themselves premised on common existence-assumptions and (2) the consequent assumptions amounting to allowance for a whole -sale exchange of "the outsiders" and "the insiders". That is, what empirical testability demands here is an allowance for turning all "outsiders" into prospective insiders and all "insiders" into prospective outsiders. The hypothesis of the great divide is thereby rendered empirically untestable. For in any process set up to test the claim that there is a great divide, it is necessary to proceed on the opposite assumption that all "outsiders" are prospective insiders and all "insiders" prospective outsiders, which is a denial of this claim as a whole.

Howsoever *alien* the concepts of a given society may look at various levels to an "outsider", I think that no attribution—relativist or essentialist—will ever make any sense without presupposing common, universalizable constraints of *introducing* and *learning* them and then *teaching* them to others. To

be in a totally unfamiliar terrain or territory does not necessarily mean to be disinherited of one's original identity or to be so threatened with total immersion in the *native habitat* as to be totally deprived of even a minimal escape velocity. For how can one have any anchorage in it or think of exploring its specific and unique features without inheriting first a common foothold in the form of a common, universally shareable code of learning—i.e. a code of responding to *instruction* from others and of imparting instruction to others. It is only on some such code that the possibility of inter-systemic interactions alluded to above can be premised.

The social anthropologist wanting to understand the "jungle language" first and foremost is then comparable to the child who has already acquired his native language but does not yet know the language of a community other than his own. What will the anthropologist do? He is on this side of the "barrier" face to face with the natives. Daily, let us suppose, they wave to one another in willingness to meet somewhere, someday on some wavelength. Gestures, if any, are important only so long as the natives and the anthropologist are able to *anticipate*—since as yet they cannot ask—one another's unasked questions. It is only in the context of the questions—unasked, unformulated—that any rest to gestures or one-word utterances across the barrier will make any sense. What is true of this type of situation holds also true of all language generally. Somewhere our languages must meet. But where they meet, when and how, will depend on what kind of questions are being anticipated, and with what kind of assumptions, by the mastermonolinguals when placed in common perceptual situations.

Let us now turn to the interrogative theme, "Whether or not epistemology is just the sociology of knowledge?", which apparently raises a serious problem. Interestingly enough, various alternative answers to this question are possible as follows: *First*, one might answer it simply in the negative together with the recognition of sociology of knowledge in a sense in which it presupposes a prior discipline of epistemology. I think that, in any case, epistemology sociologized will be tantamount to providing for radically different and incommensurable theories of knowledge each grounded in a particular belief-system or cognitively oriented community. The "outsider-insider" dichotomizing will be repeated as much at the level of these theories as at that of the belief-systems themselves. Social anthropology can perhaps afford to deceive itself into believing that every society, from the most primitive to the most sophisticated, shows its uniqueness in dividing all people into "insiders" and "outsiders". But I believe that philosophy can ill afford to do so in its own domain. Thus, what it can ill afford is to provide for things as incommensurable as theories of "religious knowledge" on the one hand and those of mathematical, social scientific and natural scientific knowledge on the other, where each theory is allegedly grounded in an allegedly self-sufficient system such as a given religious community or a given scientific community. If this is correct, it follows that the only way to answering the question under scrutiny in the

affirmative is to defend relativism. Relativism and the idea of epistemology sociologized must go together hand-in-hand. But, as I have already argued, relativism is an indefensible doctrine. It inherits its basic epistemological categories and identifications from epistemology as a prior discipline as we know it. Yet it is these which it seeks, paradoxically as it were, to undermine. One might therefore describe a relativist as one who would like to have the cake and eat it too. Notice, moreover, how this whole question is rooted in the following dogmatically held belief among contemporary philosophers: That the philosophical enterprises, epistemology included, are after all second-order enterprises that must match in appropriate ways their first-order counterparts. It is this, I think, which serves as the first step for any one—sociologistically or behaviouristically inclined—wanting that the philosophical enterprises like epistemology be cut to the requisite size of a second-order causal inquiry into the so-called first-order disciplines. And this itself is full of paradox.

Secondly, One might answer this whole question in the affirmative such that it lands us in reductionsisms of various sorts, where each claims a priority over others. I believe that one step in reductionism invites too many steps of the same type. Thus even if one answers the question in the affirmative, the matter does not simply end there. On the contrary, one must face other similar interrogative themes, viz. "Is epistemology just psychology of knowledge?"; "Is it just biology of knowledge?"; "Is it ultimately a causal inquiry into the behavioural/physiological//genetic/dispositional basis of belief?" And so forth. The idea of a sociology of knowledge is in my view to undermine the traditional autonomy of epistemology, its rigorous and universal standards, by reducing it to something closely akin to Quine's epistemology naturalized.[5] But epistemology sociologized will be as reductive as epistemology psychologized or naturalized. Each must be proposed and then rejected essentially on the same ground.[6]

Lastly, one might simply reject the whole interrogative theme itself as an unaskable one. I believe that if there is anything which any sociology of knowledge cannot aim at it is the pursuit of questions as fundamental and cross-disciplinary as the following: *What* is knowledge? What is epistemic rationality? What could be the most adequate criteria of rational theory-choice or theory-evaluation? And so forth. In so far as epistemology must pursue these very questions, the question "Whether epistemology is just sociology of knowledge?" is clearly one which cannot be seriously asked. This argument could be seen in the light of the fact that there is a built-in *tension* in the very idea of a sociology of knowledge—a tension which only epistemology as a prior discipline can resolve. This tension relates to the question "What is knowledge?" which a sociology of knowledge can neither ask nor answer, but answers to which it must invariably inherit from the prior discipline of epistemology itself.

In what follows, I shall defend my position from an interaction-theoretic

point of view which I have developed elsewhere.[7] Looked at from the relativist standpoint, if there be one, a cognitively oriented intentional system such as a language, a culture or a scientific theory must appear to the discerning understanding subject just as a structural hierarchical system (S-H *system*)[8] not essentially different from *similar* systems of a natural order. Relativism is, in this sense, as one might put it, a great *leveller*. At a higher level, again, all such systems put together as a *totality* of systems must also look as a vast S-H *system* in its own right. But it is at this point that relativism is exposed completely as a hollow doctrine. As I have argued elsewhere,[9] systems of an *order* of organization which is of epistemological interest to us must be understood as far more complicated and indeed different in kind from mere S-H *systems*. They are either control hierarchical systems (C-H *systems*) or *NFCPS systems*[10]. Without going here into any great detail, and having already hinted at such systems above, it might help us understand the differences between S-H *systems* and C-H *systems* on the one hand and *NFCPS systems* on the other, if we make another distinction between (1) information-carrying or information-bearing systems; (2) information-carrying reproductive systems; and (3) information-carrying creative systems. That is, we should recognize *first* that there are *systems* that bear *information* whose loss is subject to the law of entropy and the arrow of time. *Secondly,* these must be properly distinguished from systems that too carry information in thermodynamic terms, but that are at the same time informationally organized and capable of reproducing their own "copies" with remarkable accuracy and ingenuity. I believe that such systems cannot be studied, and no information can be extracted from them, if they are not studied with the help of a framework as rich in methodological assumptions as the Darwinian framework of evolution through natural selection or, in some domains at least, the game-theoretic framework of rational conflict-resolution. *Thirdly,* these two *types* of systems must be, in their turn, distinguished from *systems* that are information-bearing and information-creating systems at the same time. They are not just reproductive systems. But they are creative. Here reproductivity must not be confused with creativity.

In so far as this three-fold distinction sounds quite information-theoretic in character, it is not an entirely happy distinction to make in the present context. Yet, I think that it captures an element of truth about and an insight into systems of epistemological-ontological interest to us. Let us now consider some examples. *Physical systems* such as a crystal, a planetary system, a binary star-system or a galaxy are all information-bearing systems in so far as information in the form of physical laws governing them can be extracted from them as subjects of scientific study. These are strictly speaking S-H *systems* referred to above. Now, how about a system as type-distinct and complex as a DNA molecule, a cell, an or ganism or a population as a whole? It is these that I have designated as C-H *systems* and then described as informationally organized information-carrying reproductive systems. Not

only can species-relevant information be extracted from them, they also reproduce and proliferate their own type. I believe that what applies to such systems is also applicable to language in general on the one hand and to the culturally significant belief-systems on the other. A belief-system as a belief-system *held* by a particular group or society is then an informationally organized information-carrying system which reproduces its own exact copies, given conducive conditions, through all the surviving generations to which it is transmitted in the very process of intra-systemic interactions such as the basic forms of socialization and religious learning. A system of beliefs of a cultural or religious significance might thus be considered as a good example of an informationally organized information-carrying reproductive system. Such a system can be highly informative in so far as it tells us a lot about those people themselves who hold it. But it can *create* no information, in this sense, other than that which it carries from the very moment of its existence.

An information-carrying *system* is then one which can yield information—say in the form of laws or equations governing the state-variables of systems under study—only as to how well or how ill-organized, how regularly or irregularly *knit* the elements participating in the system are with respect to one another and other systems in the neighbourhood. An informationally organized information-carrying reproductive system, on the other hand, besides yielding information in this or an analogous sense also *reproduces* its own exact copies, placed as it is always in Darwinian or game-like conflictual problem-situations. Such systems might thus be regarded as C-H *systems* besides being (*embedded in*) S-H *systems*.

Now, how about the cognitively oriented systems as complex as the individual languages on the one hand and as abstract as the theoretical systems in the individual sciences on the other? I believe that both *language* and the special sciences constitute a distinctive realm of systems that are information-creating besides being informationally organized information-carrying systems. Yet it is necessary to distinguish language clearly and precisely from science, not only because the latter—its theory-problem interactive systems—must at any time assume a particular language-framework from among the alternatives available to it but for deeper philosophical reasons that warrant the following thesis: Unlike language, a science is an enterprise comprising *NFCPS systems,* strictly in the sense of my (1983), incorporating, as it were, all the distinctive properties of S-H *systems* and C-H *systems* at the same time. It is not without reason then that I single out the theory-problem interactive systems of the special sciences as the best examples of *NFCPS systems.*[11] Unlike the information-carrying informationally-organized information-creating systems, such as *language,* they provide the best examples of *growing systems* of deeper epistemological-ontological interest to us.

Notes

1. In this context, one has to consider doctrines as varied as those of L. Wittgenstein (1968), Peter Winch (1958), W.V.O. Quine (1969, 1975), Thomas Kuhn (1970), Paul K. Feyerabend (1975, 1978), Nelson Goodman (1978), Hilary Putnam (1981a, 1981bl 1983) and B.L. Whorf (1956).
2. Paul Feyerabend (1976:110), who advocates epistemological anarchism in his (1975), asks almost the same questions with a view to arguing for relativism as follows: "There are two questions that arise in the course of any critique of scientific reason. They are:
   (a) *What is science*—how does it proceed, what are its results, how do its procedures, standards and results differ from the procedures, standards and results of other enterprises?
   (b) *What is so great about science*—what makes sciences preferable to other forms of life, using different standards and getting different kinds of results as a consequence? What makes modern science preferable to the science of Aristotelians, or to the ideology of the Azande?"

Notice, however, how Feyerabend (1975:299) extends relativism to science by arguing that it has no authority more than "any other form of life. Its aims are certainly not more important than are the aims that guide the lives in a religious community or in a tribe that is united by a myth.... The separation between state and church must therefore be complemented by the separation between state and science". Against this one might ask the following question: Is the separation between state and church a localized phenomenon or a really universal phenomenon, whatever be its local variants? Is it, moreover, a process already completed? And if so—Feyerabend (1975:301) *believes* that it is already accomplished—how far is it reasonable to demand separation between state and science on the *model* of the former? Feyerabend does not ask this question. But why? The only explanation can be found in his prior commitment to a suitable version of Wittgenstein's family resemblance theory which he extends to different ideologies or forms of life. Thus, once it is assumed that they must *all* be closely similar/overlapping—"science and myth overlap in many ways", says Feyerabend (1975:296)—it *looks* perfectly legitimate to make closely similar demands on them, one after another.

3. See G.L. Pandit (1987).
4. See G.L. Pandit (1987).
5. See W.V.O. Quine (1969:60-90) and (1975:67-81).
6. For my criticism of Quine and of Psychologism in this context see G.L. Pandit (1983: 5-10, 35-38).
7. In G.L. Pandit (1983).
8. See G.L. Pandit (1983:56-58).
9. In G.L. Pandit (1983).
10. See G.L. Pandit (1983:66-81).
11. *Ibid.*

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Symbols of transcendence: notes towards a theory of communication in art

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Introduction

The present essay has an immediate as well as a distant objective; the immediate or direct aim is to make certain observations and suggestions regarding the nature and forms of communication in the arts and the more distant or theoretical objective is the testing, by way of an application to the domain of the aesthetic, of the theory of culture suggested in my *Towards A Critique of Cultural Reason*[1].

The first task is attempted by way of a two-step argument. In the first step or stage, I propose to consider briefly the kind of reasons and grounds which have been urged by some philosophers for the view that the issue of communication is not a central problem in the proper understanding of the arts. I shall, for this purpose, consider Dr Ranjan Ghose's article 'Communication as Inessential to the Arts'[2] I believe that his paper brings forward the basic issue involved in the discussions about communication in aesthetics—the soundness or otherwise of the analogy with language. The principle of his argumentation is the rejection of this analogy. I shall try to argue that many of his critical remarks and insights could be assimilated and thus overcome positively, if we distinguish between different modes of symbolic communication, the chief contrast being linguistic and aesthetic symbols. This point, of course, is close to Susan Langer's contrast between discursive and non-discursive symbols.[3] But the consideration of both Dr Ghose and Susan Langer is only a preparatory step in the argumentation as a whole. Hence these discussions do not claim to be critiques of the concerned ideas and principles; rather, they are to be understood as way-stations towards the positive aim of the essay, namely, the movement towards a theory of symbolic communication in the arts.

Towards a Theory of Communication

Dr Ranjan Ghose in his article 'Communication as Inessential to the Arts' brings forward certain considerations which suggest, according to him, the relative non-centrality of the notion of communication for a theory of aesthetics. At the outset, it is to be noted that he does not, as it were, flatly deny that there is a communicative element or function in the arts. But his point is that such a communication, when it takes place, is of a pedagogic rather than

of an aesthetic relevance. This, of course, raises the troublesome question of what is properly aesthetic relevance or aesthetic attitude, but I do not want to raise this issue at the present. Rather, I want to consider how Dr Ghose seeks to build up a case for the non-centrality of communication for aesthetic theory in terms of a fundamental questioning of the analogy of art with language. His central aim is, of course, to show that this is a bad or rather misleading analogy. But before we take up the details, it may be important to note that he bases his understanding of communication on the paradigm of linguistic communication. Unlike Langer, Dr Ghose does not seem to make a distinction between discursive and presentational symbols; rather he approaches the general problem of communication by way of a certain form of it, namely, linguistic communication. But more importantly, as I shall try to show, his understanding of the nature of communication through language itself does not seem to do justice to the communicative resources of language. More specifically, I suggest that we may distinguish two levels of communication—signification and symbolization—and that this distinction between two levels of the semiotic process may have certain interesting implications for communication in the arts.

Dr Ghose marshalls a number of considerations as to why he thinks that communication is non-central to a theory of art. Two of his main considerations are, firstly, that communication presupposes a pre-given intention to express something and that the act of communication gives this intention a linguistic form. And his critical point is that, in the case of art, it does not make sense to ask for any such pre-existent intention. The artistic expression is no mere external form given to something which could exist independently of the expression; rather, the meaning of a work of art is constituted in and by the expression itself. That is why, Dr Ghose argues, the artist himself would not be able to tell us what it was that he had in mind before the act of creation.[4] No doubt, the point that expression and intention cannot be understood in any such external manner, that expression is constitutive of the meaning, and that hence we should not look in vain for a meaning independent of and existing prior to the expression—all these are well taken. But except perhaps in certain extremely banal cases, much the same can be said of linguistic communication also. As Charles Taylor, for one, has recently argued, language must be seen in its constitutive role with regard to thoughts, feelings and emotions.[5] Or, to put the point differently: expression is no mere external act of formulating a meaning in words. On the contrary, it is to be seen as internally related to the meaning and intention such that in the very process of giving an expression to it, the thought gets articulated and achieves an identity. If this constitutive role of language could be argued for on general grounds, then the contrast which Dr Ghose draws between language and art would lose much of its force.

A second consideration which he advances is that in the case of language, after the communication has been achieved, the linguistic vehicle is no longer

of any interest, and hence is promptly discarded; whereas, in the case of the arts, we repeatedly go back to the art object again and again.[6] A work of art is never dispensable in the sense in which a linguistic expression is so after the message has been conveyed. No doubt, there is an important point involved in the contrast which Dr Ghose is marking, for it is true that works of art invite this repeated contemplation. They seem to have a certain inexhaustibility and freshness about them, as if they have something new to convey every time that we consider them. But surely, this phenomenon of repeated concern would become more intelligible if we assume that they have an inexhaustible content to communicate. In fact, as I hope to argue in due course, it is, among other things, this feature of 'inexhaustibility' which serves to distinguish aesthetic from other modes of communication. Hence, far from being inconsistent with the idea of communication in arts, I think that the point Dr Ghose is making is really in support of it.

But perhaps the basic philosophical ground of Dr Ghose's argument is his claim that the central clue to the understanding of art lies in creation rather than in communication. In this, of course, he represents a certain philosophical position on arts which is widely held. In general, it may be said that there are two perspectives in aesthetic theory. According to the first, the idea of critical judgement or evaluation is fundamental; we understand the nature of art in terms of how art works are appreciated and judged. Here, the primacy belongs to the aesthetic judgement. Kant, of course, is an illustrious example of this type of approach.[7] But, according to the second point of view, it is the context of creation rather than the context of judgement that is primary. To understand the nature of art, according to this point of view, it is necessary to understand the creative process. Given such a persuasion, the first argument concerning intention and expression gets an added force. Since in creating a work of art, the artist does not have any pre-given intention, it would appear that the question of how such intentions are communicated cannot even be raised.

But the terms of the debate between the primacy of creation or critical judgement are, in one sense, misleading, for I suggest that we must think in terms of the reciprocity of the two, of the dialectic of intention and uptake. I would like to argue for this reciprocity, first of all, at the level of linguistic communication in general and then extend the thesis to the aesthetic level.[8]

At the level of language, it is easily seen that communicative performances are constituted as such by the inter-play of intention and interpretation. This is what is suggested by Ricoeur's analysis. Ricoeur distinguishes speech from language in the sense of a formal system of rules, as characterized by subject, addressee and reference.[9] Speech has a subject in the sense of an agent who intends to communicate something by mobilizing the resources of language, and it has an addressee in the sense of being oriented to some one who, by an act of interpretation, would be able to respond to it as a communicative event. But these two dimensions of subject and addressee are not to be taken sepa-

rately but as in internal or reciprocal relationship to each other. This reciprocity is the dialectic of intention and interpretation that I mentioned a while back. I am, of course, not suggesting that any interpretation whatsoever can be placed on any intention whatsoever, for that kind of a total interpretative license would amount to a fantasied construction or projection, and thus negate it precisely as a communicative event. There are limits to the types of interpretation that make sense in any given case. Of course, these frontiers of hermeneutic permissibility, as we may call them, may differ in different contexts. At the level of social, political and moral discourse, the range of interpretations are likely to be more extensive than in other cases. But every communicative context has its own forms of hermeneutic openness. I am merely suggesting that we must respect these boundaries. But we must equally respect the other side of the coin, namely, that intention also is not totally free of uptake. I cannot meaningfully intend to communicate something in total abstraction from what is construed as things of that type by my consociates. Only within this shared context of understandings, practices and norms, can I make a communicative performance. I cannot, to take a trivial example, get married, or quarrel or be polite or spiteful, irrespective of and in total abstraction from what are taken to be such by my fellowmen. Of course, I could increase or alter the denotative range of such concepts or even modify and refine their connotations. Such conceptual and practical reforms are not being denied, but even the possibility of such revisions turns upon the fact that we begin with a certain accord with our fellowmen. We share common practices and a common understanding of those practices, and it is only on the presupposition of this accord, which is at once a matter of common ideas and common practices, that communicative actions can take place. In other words, I am suggesting that a certain level and type of consensus may be a precondition of communication. In this sense, it could be said that a communicative act is constituted as such by the reciprocity of intention and interpretation. Each one of this pair, while preserving its own specific autonomy, yet requires the other, and the two together form the communicative transaction.

The same kind of dialectic of intention and interpretation may also be discerned at the level of aesthetic production. It is certainly true that an adequate theory of art has to pay attention to the context of creation, and to this extent Dr Ghose's point is well taken. But art has also to be seen in terms of the modalities of its recognition. Perhaps a comparison with wit and humour can help us grasp this aspect of the matter. Now, a joke or a witticism has to be recognized as such. Failure at the level of recognition disqualifies it as a joke. It has to be such that it can be recognized as a piece of wit. We can say that a joke that does not get across is no joke. Its identity as wit is constituted by its recognition. Of course, a theory of humour has to keep in full view the complex psychic intentionalities of the production of wit, as for example, Freud's '*Wit and Its Relation to the Unconscious*'[10] does. But it is also essential that a theory of humour sets the understanding of these psychological mechanisms and processes within a theory of how wit is perceived and recognized. A joke is, in its own way, a form of relationship to others; as Simmel would put it, it is a form of sociation and this intersubjectivity is constitutive of it.

So also a from of creativity or personal production to be seen as *artistic creativity* and not something else, this issue of aesthetic recognition, as we might call it, is central to a theory of art. An adequate understanding of art becomes possible only if we are able to grasp the reciprocal constitution of art in the interplay of creativity and recognition. Only in the context of this dialectic that a work assumes the shape of the aesthetic. But, while emphasizing this dialectic of reciprocity between creativity and recognition, it is necessary also to preserve the autonomy of each at its own level and in its own proper form.

We have already seen how in the case of linguistic communication, intention and interpretation together constitute a communicative act. Of course, interpretation has to be an interpretation of an intention; in this sense, it has to respect and respond to a source of meaning outside of itself. But, on the other side, intention too cannot totally ignore the semantic field of interpretation. It has to be expressed in such a manner that the possibility of articulating it is not destroyed. Any intention which violates the conditions of possibility of interpretation would, by that very violation, defeat itself as a communicative act. (Perhaps this is how one may reformulate the Wittgensteinian argument concerning the impossibility of a private language in our own terms.) But what is more important is that similar considerations have to be kept in view, when we are considering communication in the arts. Here too, creativity achieves its identity as aesthetic creativity only in so far as it permits itself to be recognized as such by aesthetic judgement. Only in so far as it enters the world of critical discourse with its categories and principles of evaluation does constitute itself as a work of *art*. This does not mean that the critic is sovereign in the sense that it is he who legislates what shall be art and what cannot be so. The role and function of the critic is not to be seen in such monological terms, but the critic is an element or term in a dialogue of the constitution of art. In his own way, he has to respond to the meaning embodied in the work before him. In this sense, the art object is the controlling centre of his articulation and interpretation. But this responsiveness of the critic is not to be taken as a mere passive receptivity as if the critical sensibility has to function merely as a reflecting mirror without its own proper activity of construction and articulation. It is true that all this critical labour has its *telos* in the comprehension of something other than itself. But it is not true that such comprehension does not require or demand a most intense activity on his part. On the contrary, it is precisely this activity on his part which safeguards the autonomy of the art work, for otherwise, it would be serving merely as a peg to hang his own personal predilections and proclivities. The fact that the art-object has a being of its own, which is irreducible to anything else,

does not mean that its comprehension can be a simple receptivity. On the contrary, I am suggesting that it is precisely the objectivity of the art-object which necessitates the critical labour of articulation and interpretation.

But if the objectivity of art has to be seen in this way *vis-à-vis* the critical response to it, so also must we see this objectivity of art *vis-à-vis* the creative impulse of the artist. If we, while considering the first dimension of objectivity *vis-à-vis* the critic, put it in terms of a *response* to something extrinsic and autonomous, we can now say that, from the point of view of the creative artist, the demand of the objectivity of art means that he produce something to which the critic could respond in such a manner; in other words, it is the *responsibility* of the artist to produce forms which could make possible such critical response. We may call this the communicative responsibility of the artist which is complementary to the responsiveness of the critic.

Both the communicative responsibility of the artist and the critical responsiveness of the appreciator can be complementary, because they have a common presupposition which is the ground of their possibility, namely, that it is possible for meanings to transcend their specific situationality and become available for others. The artist produces a form which, of course, may have all sorts of complex connections, direct as well as indirect, conscious as well as unconscious, with this personal subjective life. The psycho-dynamic roots of art need not at all be denied in trying to understand its proper objectivity. In our terms, art is capable of signification and hence can be called expressive in this mode. But expressiveness need not be restricted to signification alone; on the contrary, a work of art may be expressive as a symbol and not merely as a sign. But precisely this symbolic expressiveness is what was involved in the previous discussion of the objectivity of art. We have said that the symbolic transcends the signific, but to this we may now add the point that it transcends the signific both in the context of creation and in the context of critical response.

It is certainly true that within such an approach to art a number of serious philosophical questions arise. For example, there is the fundamental issue of what kind of being or reality may be attributed to such symbolic forms; this is the issue of the ontology of the aesthetic object. Also, there could be questions of our mode of access to such symbolic expressiveness. But it seems to me that all such ontological and epistemological questions about art presuppose an even more basic 'transcendental' question about the condition of possibility of such transcendence. In other words, how is it possible for meanings to transcend their specific situationality or contextuality and become expressive symbols and not merely context-bound signs? How are symbols, in our sense, possible?

The Kantian transcendental-critical mode of formulating the issue gives a specific orientation to our inquiry, for here, too, following the movement of the critical programme, we can distinguish a *quaestio facti* from a *quaestio juris*. It may be an anthropological fact about human communication that

men claim such symbolic transcendence, that they see themselves as expressing universally valid norms and principles. This is the *quaestio facti* about the human competence for the symbolic. At this level itself, there could be a dispute as to whether men do really have such competence. Here, there could be two kinds of hermeneutic procedures, which we may call the hermeneutic of suspicion and the hermeneutic of trust.[11] According to the first, the hermeneutic of suspicion, all meanings can be understood only situationally so much so that behind the presumed universality of certain ideas and principles, we can always discover a situational or context-bound intention or purpose. The task of interpretation is to uncover these specific intentions, and thereby reveal the claim to universal validity as a kind of mask or disguise behind which there are the real interests of individuals and groups. For this kind of hermeneutic, the symbolic is a mask or disguise which sometimes assumes significance, and the goal of interpretation is to decode the mask or disguise and also to show the specific conditions under which such disguises become operative.

On the other hand, a hermeneutic of trust would regard the symbolic as irreducible to the signific; in other words, for this kind of hermeneutic, it is essential to the kind of being that men are that they have the competence to originate as well as acknowledge universally binding principles. But this does not mean that every such claim is *ipso facto* to be taken at its face value. There are possibilities of validation as well as invalidation of such claims. In that sense, a hermeneutic of trust could also be critical. But the modes of its criticism would be different from that of a hermeneutic of suspicion, which would reject the category of the symbolic altogether as a human possibility. However, for a hermeneutic of trust, there is the additional problem of explicating the possibility of such symbolic transcendence. As we know, any mode of inquiry which seeks the a priori grounds of the possibility of a phenomenon is what Kant terms critique. In that sense, a hermeneutic of trust would be critical not merely in the sense of seeking criteria of validity for symbolic claims but would also be critical in the more fundamental sense of seeking for the possibility of symbolic competence itself. Or, using contemporary distinction between performance and competence, we can say that the first mode of criticism is at the level of performance, while the second is at the level of competence.[12]

But when we move from a general theory of hermeneutics to the hermeneutics of art, we have to face another issue also. Since this point seems to me to be of some importance, I propose to elaborate upon it somewhat. A satisfactory theory of art, may be expected to fulfil two kinds of function; on the one hand, it has to explicate the domain of the aesthetic. For example, if the context is one of aesthetic creation, we may expect a theory to explicate the phenomena of artistic creativity. Or, if the context is one of aesthetic response, we may demand of a satisfactory theory that it explicate the basic features of the aesthetic experience and the aesthetic attitude. Whether the context be one of creativity or criticism, at this level a satisfactory theory of the aesthetic

would have to fulfil the demands of explanatory adequacy. But, in addition to such explanatory adequacy, a theory of the aesthetic may also be expected to suggest canons or maxims of aesthetic evaluation, i.e. an aesthetic theory, in addition to explicating the nature of the aesthetic, may also be expected to provide a framework for aesthetic appraisals. It is, of course, possible that a theory may have explanatory adequacy but not the critical. For example, aesthetic theories, inspired by Freudian psycho-analysis, may perhaps have explanatory adequacy in the sense that they could give us a valid understanding of the creative process. I am not claiming that psycho-analytic hypothesis, as they stand, are, as a matter of fact, even explanatorily satisfactory. On the contrary, it seems to be the case that most of them are partial or one sided or fragmentary in one way or the other. But it is possible that a more adequate formulation may one day overcome all such explanatory gaps, and thus provide us with a coherent and balanced account of the psychology of creation. In this sense, Freudian aesthetics may fulfil the norms of explanatory adequacy.

But even if we have such an explanatorily adequate theory, it does not seem capable of providing a framework for aesthetic appraisals. By this I mean: it seems that we can not use the principle of explanation of such a theory as a norm for aesthetic judgement, and thus discriminate between objects on aesthetic grounds. To say that art is a projection of the unconscious or to be closer to the actual Freudian formulation, to say that artistic creativity is a type of regression in the service of the ego, as Ernst Kris suggests,[13] may be insightful in understanding the nature of the creative process, but it does not suffice for making aesthetic judgements of appraisal. To say that *Hamlet* is an expression of Oedipal feelings does not help us to distinguish it as a work of art from other forms of projection. Similar comments may be made regarding the conventional Marxist approaches to art also. Here, again, explanatory adequacy is one thing and critical adequacy another. But if we have a theory which connects these two dimensions of adequacy, in the sense that, in the light of its basic theoretical principle, we are in a position to both understand the nature of a work of art and also to make aesthetic judgements, then, it could be argued that such a theory is preferable to theories which are only explanatorily adequate. But it is important such a theory uses the same principle at both the levels, for it is obvious that if the principle of explanation were different from that of appraisal, then, in effect, we have two theories—an explanatory and a critical theory. At the same time, it is also to be noted that the canons of judgement cannot be simply made to follow, as it were, deductively from its explanatory principles. The complex pattern of relationship between explanatory adequacy and critical adequacy within a theory of art is an instance of the more general philosophical problem of the relationship between fact and value, describing and evaluating. We shall, of course, not go into the complexities of this philosophical problematic beyond what may be minimally necessary for our purpose.

Applying these general considerations to a project of a hermeneutic of

trust in the domain of the aesthetic, we can see that any such application requires that we face two tasks:

(1) On the one hand, we are called upon to show how the distinction between signification and symbolization can be made and how it suggests a theory of aesthetic communication. This aspect of the task may be called the explanatory problematic of the theory.
(2) On the other hand, we must also show how the distinction between the signific and the symbolic may also provide criteria or rules of aesthetic judgement. This may be called the critical problematic of the theory.

The two tasks, taken together, are the intrinsic problematic of the theory, but, in addition, we also have to encounter an extrinsic problematic. If we can show how the distinction between signification and symbolization arises at the level of linguistic communication itself, then we would have a basis for the idea of aesthetic communication in a general theory of communication as such.

In order to give a kind of orientation to the discussion that follows, I should like to recall two important insights in Dr Ghose's discussion: (*i*) that in the case of the arts, the intention or meaning is not accessible independently of the work of art, and (*ii*) that art forms have a perennial freshness about them such that they appear inexhaustible.

I believe that both these characterizations refer us to important aspects of art which must be given due recognition in any theory of communication in the arts; as such they may well serve as the parameters of the following attempt.

Signification, Symbolization and Exemplary Transcendence

There have been two implicit themes in our previous discussion which now require to be focalized and made into principles of our analysis at this stage. The first idea is the distinction between signification and symbolization, and the second the idea that such symbols are to be described as exemplars which transcend situationality or contextuality. Accordingly, we may call the mode of their operation exemplary transcendence. I now propose to elaborate on these two ideas a little further.

The distinction between language and speech, of course, is the fundamental differentiation of De Saussure and Benveniste. There the fundamental point of contrast was the a temporality of language as a code or system as distinguished from speech as an event. But, for our present purposes, certain aspects of the differentiation would appear to be more important. Thus, following Ricoeur, we can say that speech or communication, as contrasted with language, has a *subject, an addressee* and *a reference*. Speech is from some one to some one else about something; it is the mobilization or activation of language by a subject to mean or communicate something about the context in which it takes

place to a partner or partners in the situation. That is why, at the level of speech, the two questions 'what do you mean?' and 'what does it mean?' merge together. But speech does not only have a subject, it also has an addressee. The addressee of speech may be a plural addressee in the sense that it is directed to more than one individual. One may have many dialogue partners, but the important point is that the addressee of speech must be a concrete individual or a person; one cannot speak to a collectivity or group *as* a collectivity or group. In Buber's language, the addressee of speech must always be a 'thou'. Similarly, speech is context-bound in its content aspect also. The immediacy of the speech situation is evoked by a whole host of tacit conventions and presuppositions. That is why dialogue has a certain liveliness and directness about it, for in live dialogue it is clear what aspects of the situation are being taken into account by the participants. This 'aboutness' of speech may be called its reference. Speech is, thus, contextual in all the three modes of subject, addressee and reference. The production of and participation in meanings in such a context-bound manner is *signification* as we are using the term.

But, as Ricoeur points out, speech is only one form of discourse, which could also take the form of written discourse. We must, therefore, consider what happens to these dimensionalities when discourse transcends the situational specificity of dialogue. When we move from oral to written discourse, we observe a process of transcendence which modifies all the three features that we have distinguished, namely, subject, addressee and reference.[14] It is not, however, the case that these aspects are abolished or negated. With such negation or elimination, we would be back at the level of language and not discourse. Rather what happens to these features is that, in one sense, they are negated but only to be preserved in a more general and purer form. This operation of cancellation and preservation is what I call the process of transcendence, and my suggestion is that in written discourse symbolization transcends signification. Transcendence is not abstract negation but what Hegel would call concrete negation, for here the three aspects are not annulled but transformed. The process of transcendence I propose to call anonymization, generalization and essentialization respectively as they affect three dimensions of subject, addressee and reference.

Speech is said to have a subject in the sense of a concrete individual speaker, communicating his own intention by way of his oral communication. Here the personal intention is dominant such that we can say that oral communication is constituted by the motivational intention of the speaker. That is why an understanding of the speaker is determinative of what is spoken. But with textual communication what the text says is never reducible to authorial intention. It is not that the text does not have an author, but the discourse of the text has a certain autonomy, to ignore which is to commit what literary critics call the intentionalist fallacy. The text, of course, is a production of a certain biography; this sense of authorship we may call biographic authorship

to be distinguished from what I should like to call hermeneutic authorship. Hermeneutic authorship is a construction in the sense that it is an understanding of the author as revealed in the textual discourse itself. The text discloses a structure of meanings, and what I call hermeneutic author is the idea of an abstract personage as the fictive centre of those meanings; the notion of a hermeneutic author is the notion of an assumed centre of the meanings as disclosed by the text itself. It is this process of a shift from biographical authorship to hermeneutic authorship that is the first moment of transcendence that we observe when we go from oral to written discourse, and it is this moment that I call *anonymization*. The text 'anonymizes' the subject in the sense that the idiosyncrasies of a concrete psycho-physical biography are transcended, and, as it were the author is reconstituted at the level of the textual discourse itself. It is in one sense a loss of subjectivity, but in another sense it is a purification of it; we may say the text is one of the means of achieving self-hood.

The second moment of transcendence has to do with the addressee of the communication. Oral discourse, in the form of dialogue, has a contextual orientation to fellow participants in the dialogue situation. This contextuality of dialogue is transcended at the level of textual discourse such that it is addressed to all those who can enter the discourse unfolded by the text itself. Corresponding to the anonymization of the subject there is a generalization of the addressee. Unlike a living oral communication, the text has a certain impersonality of address. It is no longer oriented to a concrete 'thou' but it addresses itself to all those who have a certain competence or *adhikara* to receive it. In this sense, its orientation is to a generalized other. Here, again, the apparent negativity of the process of generalization of the addressee should not, however, occlude the element of a certain qualitative richness in the appeal of the text. It is not merely that in this generalization the range of audience for the communication is widened. The text transcends the spatio-temporal restrictions of the dialogue, but this is made possible precisely because now the meaning possibilities of the disclosure get a dimension of universality. The text now speaks to men in their essential humanity; it addresses them in the name of and with the authority of essential needs, powers and demands of human nature. This aspect of the appeal of the textual discourse may be called universalization rather than mere generalization.

But, in a sense, both the two moments of transcendence that we have noted are grounded in the third—the essentialization of reference. The reference of dialogue or oral communication is a specific here and now situation. This type of reference is concrete, and dialogue achieves a certain immediacy in the evocation of it. But the text in its situational transcendence no longer evokes any such concrete setting; in relation to oral discourse, textual discourse is decontextualized. But precisely by means of this freedom from a specific context setting or situation, the text represents a world. It symbolizes the essential forms and structures of human existence. I propose to call the representation

of a world in abstraction from situational contingencies, 'the essentialization of reference'. It is in this sense that we sometimes speak of the world of Plato or Shakespeare or Neitzsche. This essentialization of reference, we can now see, is at the root of the other two moments of transcendence. In the world of essential structures, there is no place for the contingent particularities of either the author or the addressee. If such particularities were to intrude by a capricious act of self-will, either by the author or the addressee, the text suffers a rupture, a dislocation, at the hermeneutic level. If the idiosyncrasies of the author provoke this dislocation, the phenomenon may be called hermeneutic exploitation; whereas if the reader intrudes with his own quirks of temperament and importunities of personal need, the text suffers hermeneutic mutilation in the sense of serving as a mode of escapism. The essentiality of the textual discourse demands an 'ascesis' on the part of both the reader and the author, a certain disciplining of oneself in the service of the textual discourse. This ascesis is the negation of the wilful and the arbitrary, on the basis of which alone can symbolic transcendence take place.

I have suggested that we must keep in view both the level of signification and the level of symbolization, but I would now like to add a certain refinement to this notion of a double perspective. I do not want to suggest that signs and symbols are different hermeneutic entities. Culture is not a mere coexistence or juxtaposition of such desparate entities. Rather, we must think in terms of two levels of operation of meanings, each interpenetrating with the other and our hermeneutical theory must be capable of disentangling both these levels in the single process of semiosis. Sign and symbol are thus not separate substantive entities but functional differentiations within the life-world. This idea of a functional differentiation within the semiotic process may be made clearer if we approach it by way of the idea of an exemplar. As we are using it, an exemplar is a concretization of a certain generality, but this generality is not abstracted from a number of instances by means of a generalizing induction. It is the presentation of a generality by a particular. Since it is the presentation of a generality, the cognition of an exemplar is not the result of subsuming an instance under a concept or a category. It is not, in other words, a determinant judgement but a reflective judgement that can comprehend an exemplar. On the side of the judging subject, as Kant shows, reflective judgement is possible only when imagination and understanding come into a spontaneous harmony with each other such that this harmony is felt as a disinterested pleasure or delight.[15] But we can take one crucial step beyond the limits of the Kantian analysis. I suggest that this experience of a 'disinterested delight' may also be approached not merely, as Kant does for us, but as pointing out a possibility of our relating ourselves to the world. In other words, I am suggesting that the condition of the possibility of such a delight is a certain trust in the world. If this idea has some plausibility, then I think two fairly important consequences may follow: (*i*) culture cannot be comprehended solely by way of a situational sociology of knowledge approach; (*ii*) more importantly, it can be comprehended only by way of a trust in its exemplary symbols.

Signification is the expression of contextual meanings or rather it is the expression of the contextual dimension of meaning, whereas symbolization is the expression of the decontextualized dimension. The symbolic is that aspect of the meaning process which has a certain general or universal range of validity. To give an elementary illustration of the signific and the symbolic: in the discourse of the family, the terms 'father', 'mother' and 'child' operate both at the signific and symbolic levels. As signs they evoke the specific individuals talked about in the discourse, but such terms also move on the symbolic level, representing archetypal meanings available in that culture and even beyond this cultural level; they represent a certain primordial understanding of human relationship, portraying the basic forms of human socialization. One must, therefore, speak of the levels of the symbolic dimension from the regional subcultural to the primordial and archaic forms of lived experience. The symbolic is, therefore, the domain of the general and universal meanings. Now the point that I wish to make is that these general meanings transcend the situational settings in which they are embedded. In other words, the symbolic transcends the signific. When such forms function as symbols, they may be called symbols of transcendence. From this point of view, culture may be looked upon as the domain of symbols of transcendence. Insofar as such symbols operate in discourse, i.e. insofar as culture is active in the experiences of individuals, the finite individual is enabled to transcend the contextuality and existential boundedness of his life. In traditional formulation, in culture life is *aufheben*, i.e. transcended and yet preserved in a higher form. But such symbols are not mere concepts; they have the form of what we have called 'exemplars'. It may be remembered that an exemplar is a presentational concretization of general meanings. In a single concrete symbol, there is presented a whole wealth of insights. The exemplary symbol is found and appears inexhaustible by interpretation. We have also seen that the comprehension of such forms gives rise to a feeling of delight. The idea is that an exemplar, being a unity of form and content, without, however, ourselves being able to formulate this rule or formula of unity, it is the case that when we are presented with such organic wholes, our cognitive powers of imagination and understanding are brought into a natural harmony, which is felt as a free delight.[16] Now, a cultural form is a structured complex unity of such exemplary symbols in various modalities—in visual, auditory, literary, poetic and philosophical modes. Even within a single form such as the epic, there is a complex texture of such exemplars and the unity of the whole is of a higher order; in other words, culture is a totality of totalities of exemplars, each exemplar itself being a totality, an organic form. The comprehension of this higher level totality of culture is, therefore, an experience of a complex articulation of delight which takes the form of reverence. In the presence of this complex whole of inexhaustible symbols, to the extent that an individual has a living contact with

it, there is formed in him a certain reverence for it. Indeed, it is only by way of such a reverence that the culture itself becomes accessible. The wholeness of a culture, the living unity of a tradition is not accessible to summative historical and other kinds of synthetic acts of cognition, but it is given by way of the self-consciousness of its primal articulators. What I mean is this: a tradition reaches perfection of expression in the articulation of its men of thought, feeling and action. It is in and by way of the self-consciousness of these individuals that the unity of a tradition is made available to our understanding. The great distance that separates such a hermeneutics of culture from situation-centered interpretations would, I hope, be by now very clear; for far from regarding these exemplary exponents as merely the legitimisers of an ideology, the present approach is built on a principle of trust in them. This trust is not merely the tribute that we pay to their charisma, but rather, to put it in Kantian language, it is the condition of possibility of our comprehension of culture.

But what precisely are the modes of this comprehension? How do we interpret the meanings of these exemplary symbols? It is to this issue of the mode of accessability to the symbols of transcendence that I would now like to turn. In our discussion of exemplars, it may be noticed that I have been emphasizing their cognitive content and that is why I have used an epistemic term, 'comprehension', in connection with our response to them. The exemplar has a certain meaning content which, however, cannot be exhausted in any specific contextualization of it; its 'content' transcends all such specifications and serves as the stimulus for ever more fresh and novel specifications. Because of this latent or tacit dimension, it cannot be grasped in the mode of an objective cognition; it is to be 'comprehended' rather than known as a contextualized instance. Further, this comprehension also carries with it, on the subjective side, a certain 'decontextualization' of the subject. The feeling of disinterested pleasure, we are told, is not even concerned with the existence of the object. In this feeling there is no situation-specific or contextualized pragmatic need. In this sense, it is a free delight and also claims a universality purely in terms of this capacity of all men to respond to such a form, free of all contingent determinations. I am now suggesting an aesthetic object, understood in this manner, as an exemplary form in the experience of which a transcendence at the three levels—of subject, addressee and reference—takes place. It is not being denied that an aesthetic object may also have a signification, as for example, when an art form is being put to use in a situation or context of practice. But in that kind of context it is not being experienced as an exempler. To make it stand out as an exemplar, our consideration of it must shift from the signific to the symbolic. With this shift in our consideration, it becomes, in Kant's language, 'disinterested', and the form is judged beautiful. But this shift also makes it possible for the form to represent certain general or universal meanings. In other words, I am suggesting that it is possible for an aesthetic form, without losing its aesthetic quality, to serve as a cultural exemplar. This hermeneutics of the art form is, I suggest further, significantly different from the usual sociology of art paradigms in certain important respects. Firstly, these approaches emphasize the contextuality of the art form; they seek to clarify the significance of art, what art 'says', only by situating it in a certain context, whereas the present approach emphasizes decontextualization as the condition of grasping its exemplary significance. Secondly, because of their search for situational determination, the conventional paradigms have a problem of explaining the purely aesthetic significance of the objects with the result that such an analysis precisely neglects the aesthetic dimension of art objects. But, in our present hermeneutic frame, an art object functions as an exemplar only when it is decontextualized; and precisely when it is so taken that it reveals itself an aesthetic object, only then does it become the object of a purely disinterested judgement. In this way, I believe that the present analysis can keep in full view the full aesthetic dimension of the object; but at the same time it does not isolate the aesthetic from all contact with life. Without losing its proper aesthetic dimension, art becomes functional for life. Connected with this, there is a third point of difference; in the sociology of art paradigms, the two levels of adequacy that we have distinguished earlier, namely, explanatory adequacy and critical adequacy, fall as under with the result that the explanatory framework does not suggest rules or principles of aesthetic appraisal. On the other hand, the present theory of symbolic transcendence can provide, as I shall try to show, an orientation for such appraisals.

We, therefore, come back finally to the basic issue of explicating somewhat further the modes of understanding the exemplary forms and the kind of comprehension that they promise and make possible.

The Circle of Interpretation and the Equilibrium of Understanding

Plato in the *Cratylus*[17] offers us a fanciful etymology of *hermeneia* (interpretation) and *hermeneuein* (to interpret), tracing them to Hermes, the messenger god. Behind the playful connections and derivations there is, however, a certain philosophical intention in this, for the idea of Hermes as messenger or mediator brings with it the idea of a sundered communication and the need for restoring it by way of interpretation. The mortals cannot, being mortal, directly understand what the gods portend, while the Olympians, in their turn, require an intermediary and advocate who would intercede with them on behalf of mortals; and it is this mediation by way of interpretation and articulation that is the office and role of Hermes; the god moves in the interstitial domain between the immortals and mortals and he is also the custodian of language, for language, too, has a duality. While it is through language that understanding is achieved and disclosure of the nature of things effected, it is also through language that falsity and error and misunderstanding are made

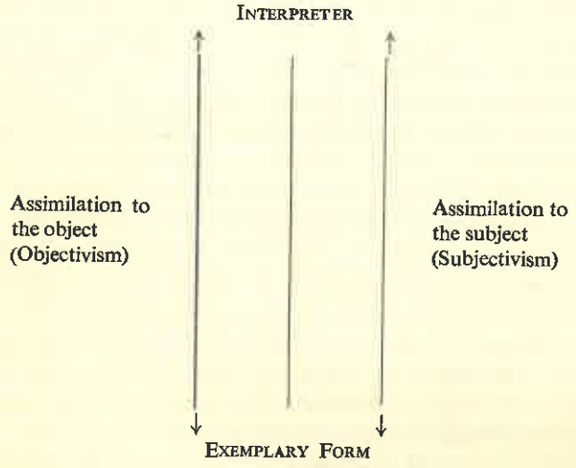
possible. Language has a revelatory as well as a concealing function corresponding to the two forms of the true and the false.

In this playful etymology, a number of significant ideas are touched upon. For one thing, there is the idea of interpretation as resting on a community of understanding; secondly, there is the ambivalence of the whole project, namely, that it can issue in concealment and deception as well as in the disclosure of truth. There is also the implicit suggestion of the connection of interpretation with the notions of truth and falsity; and, lastly, there is the suggestion that the mediating function of interpretation is a perpetual need. The consensus that is aimed at is always, as it were, in the making and could never claim the status of a completed achievement. Understanding is an ever-deepening process such that each stage of it only prepares the way and possibility for a deeper understanding.

But wherefrom comes the duality, the ambivalence, of the hermeneutical project? It seems that this duality is rooted in the primordial structure of interpretation itself. On the one hand, interpretative understanding is called forth only when we encounter something other than ourselves; to put it in the language of Husserlian phenomenology, we have to have recourse to interpretative understanding only when we have to grasp an intentionality other than our own. This may be called the objective pole of interpretation, but the objectivity of the object of our interpretation must be conceived in such a manner that it becomes comprehensible to a subject with its own schemes of intelligibility; a foreign intentionality must be grasped in such a manner that it can enter into the life-world of the subject. This may be called the subject pole of interpretation. Together, they demand that the process of interpretation should aim at an equilibrium of understanding in which the subjective and objective poles are reciprocally related; in other words, interpretation is a 'form-to' structure in the sense that it proceeds from a subjective intentionality with its own schemas of understanding but is oriented towards an objective intentionality embodied in the form of an exemplary symbolic object. Given this 'form-to' structure of interpretation, we can see that there are two types of possible misunderstanding which are rooted in the nature of the process itself. On the one hand, the autonomy of the object may be lost sight of, and understanding may degenerate into a subjective incorporation of the object. In other words, the aesthetic object may be so conceived that it becomes merely a stimulus for the subject's constructions. In itself, it has no meaning for whatever meaning it has is an enacted and invested meaning. The object becomes meaningful only in the process of subjective assimilation of it such that its aesthetic *esse* is psychological *percipi*. The immediate consequence of such a subjectivization is relativism; for if the object becomes meaningful only within the subject, then it would seem to follow that each subject invests the object with his own meanings and schemas of understanding. On the other hand, there is the temptation of objectivism, which, while recognizing the relativistic implications of the first view, seeks to guard itself against it by

holding that we must strive to put all our subjective forms of understanding into brackets as it were and approach the aesthetic object in a pure 'presuppositionless' state of mind. We must not seek assimilation of the object to the subject, but of the subject to the object. Our critical sensibility must become purely receptive, and allow itself to be determined by the intrinsic being of the object.

These are the primordial pitfalls of interpretation, for in both the cases it is precisely the equilibrium of the understanding that we spoke of some time back, the balancing of the intentionality of the subject and the intentionality of the object that is disturbed. The vectorial nature of interpretation, that it is a 'from-to' process, is obliterated in both the subjective as well as the objective programmes. But if we are to overcome the antinomic opposition between subjectivism and objectivism in aesthetic theory, we must be able to deny the common presupposition on which both are grounded. For paradoxical as it may sound, both of them, in spite of their manifest differences, have a common presupposition, namely, that there could be a direct, unmediated relation between the interpreter and the text, as in the following schema:



In order to distinguish the present approach from both the subjectivist and objectivist models, we may call the latter linear hermeneutic paradigms, as against the former, the circular hermeneutic paradigm. The basic difficulty with linear programmes is that they ignore situationality. In the case of the subjectivist version of the model, the specific situationality of the text as rooted in a certain cultural and presuppositional context is ignored; the 'otherness' of the object, its embededness in a different life-world is lost sight of; whereas in the objectivist version the historical situatedness of the subject is minimized, and it is assumed that the interpreter can, as it were, by an act of empa-

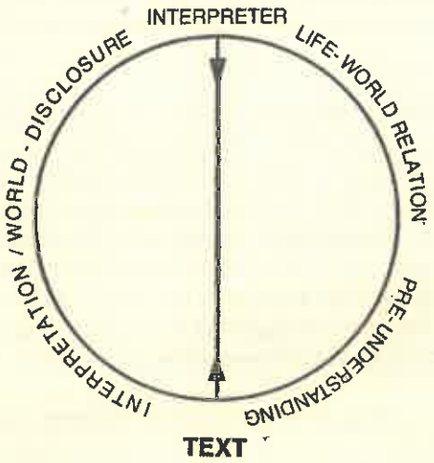
thic identification, pass over into the object. But the fundamental problem of interpretation lies precisely in as to how it is possible for the interpreter to transcend his situationality or contextuality and comprehend the object in terms of its own disclosure. The objectivist answer to this is that this is possible only by way of suspension of one's subjective schemata of intelligibility and evaluation; one must put these 'prejudices' aside and grasp the meaning-content of the aesthetic object in itself.

It is true that such 'prejudices' and preformations may function obstructively, and prevent a proper recognition of the otherness of the object. Hence there is need for a discipline here, but this discipline in the service of the text cannot be thought of as an attempt to put these preformations into brackets and render them inoperative. This is not merely because it is very difficult, perhaps impossible, to eliminate the force of these taken-for-granted assumptions and presuppositions; but the point is epistemological and not merely psychological. Understanding is tied to these pregiven schemata in the sense that suspending them would void the project of understanding itself. As Gadamer has argued: 'prejudices' in this sense are the very conditions of possibility of understanding.[18] Hence the disciplining of prejudices cannot take the form of trying to get away from them; we must use these 'prejudices' and anticipatory understandings in such a manner that they would function on the side of the understanding rather than counter to it; we must transform what could be an obstacle into an ally and instrument in the service of the understanding. To put it in other words: the first movement of interpretation must be from the subject to the object, but the second movement is from the object to the subject, for the aim of interpretation is to let the text disclose itself to the subject. In the second movement the text responds to the interrogation of the first movement and by listening to the discourse of the text the subject is transformed; for now he sees himself within the perspective unfolded by the text and thus achieves a deeper sense of his own powers, needs and responsibilities; a great text increases the lucidity and depth of one's understanding of oneself. In this manner, the second movement proceeds from the object (the text) to the subject (the interpreter). Together these two movements constitute the circle of interpretation (the hermeneutic circle), and it is in this circular process that the equilibrium of understanding is achieved. But since this equilibrium is the result of a process, it is a dynamic poise rather than a once-and-for-all attained stasis. This means that the process of interpretation and understanding moves in a spiral, as it were; each hermeneutic circle figuring as a stage or segment in this ascending spiral of understanding. It is because of this ascent of insight that a work of art is experienced as inexhaustible, for each encounter with it prepares the interpreter for a greater penetration and depth of insight into it. By transforming his modes of understanding and more importantly by refining his sensibility an exemplar equips him for deeper levels of understanding and responsiveness to meanings. It is this process of reinforcement of each by the other that keeps the pattern of understanding

as an open-ended spiral, and it is also because of this that the art object retains its character as a permanent possibility of stimulation.

Thus, the communicative process that takes place between the interpreter and the artist by way of the exemplary symbol takes shape as a moving equilibrium of understanding.

The following schema seeks to represent the main stages of this process of discovery of meaning:[19]



The fact that we start from the interpreter signifies that the movement of the circle of understanding starts from the subjectivity of the one who is interrogating the object; we begin with a questioning of the significance of the text. We do not begin with the text as it exists in itself, as a stratum of objective form. In this sense, it is in relation to the subject that the disclosure of the text has to be seen; but we begin with the subject not in the sense of an empty formless receptive medium but with the subject whose critical and interpretative efforts are formed within a horizon of assumptions and presuppositions. In this horizon, the text initially appears as foreign presence, as the embodiment of another intentionality. If the interpreter and the author were to belong to the same horizon, no interpretative effort is needed; but if the two are altogether disparate and incommensurable, no understanding can take place. In the one case, it is not necessary and, in the other case, it is not possible. It becomes necessary and possible only when there can be a fusion of horizons.

For such a fusion to come about, it is first necessary that the interpreter initiate the movement towards the fusion by relating himself to the text, not objectively but in terms of his own lived experience. The text is present to

the interpreter as the symbolic expression of another intentional life. Its status in the world of the interpreter is neither that of a mere object nor that of another subject; it is the symbolic presence of another subject and as such the mode of relationship to it cannot be either the mode of objective cognition nor that of inter-subjective mutuality of recognition. The noetic act of exegesis and interpretation are called forth precisely because of this distinctive noematic status of the object. (This point may be important insofar as it suggests that interpretation is not reducible to *verstehen* in Dilthey's sense.) This life-worldly relation to the text is built upon and, in fact, is made possible, because the subject has a certain pregiven frame of understanding. As Bultmann puts it:

> Without a preunderstanding no one can ever understand what is said anywhere in literature about love or friendship or life and death—or, in short, about, man generally. The only difference is whether one naively and uncritically holds fast to his pre-understanding and its particular expression—in which case the interpretation remains entirely subjective—or rather explicitly or implicitly, puts his pre-understanding to question, either out of instinct or out of the clear knowledge that man's understanding of himself is never closed, but rather must always be laid hold of anew in resolve. Only in this latter case does the interpretation achieve objectivity.[20]

The pre-understanding of the interpreter, therefore, allows him to enter the text. At this point, we may note a certain feature of the order of the stages of the process of interpretation as we have described them in the circular representation given above. The later stage explicates and brings to form what were implicit in the earlier stage. Thus, the second stage of life-worldly relationship to the art object is grounded in the previous stage, the centrality of the interpreter; at the same time, it explicates the specific forms of subjectivity of the interpreter. Secondly at the level of pre-understanding, the life-relationship to the text gets articulated and formed for it is these schemata of understanding that were implicitly involved in the previous stage. So also, the schemata of pre-understanding, the implicit taken-for-granted principles and categories of judgement, which were applied to the understanding of the text, now become explicit. Without such preunderstanding, as we have already seen, there could be no interpretation, for all our interpretations are guided interpretations. But at the same time it is in interpretation that our pre-understanding gets a chance for explicit articulation. What was previously an unconscious bent now becomes a conscious orientation. It is with this focalization of our pre-understanding that we have a possibility of moving over into the second movement of interpretation, from the object to the subject; for, now the disclosure of the text which is made possible by the interpretation provides the context in which the structures of the pre-understanding can be called into account. As a result of the labours of interpretation, the text unfolds its representation of life and its possibilities, meaning and burden of responsibilities. It is this moment of disclosure that we previously studied under the aspect of essentialization of reference. The text depicts a world into which the subject can find a new hermeneutic placement. The movement which began with the attempt of the subject to contextualize the text now ends with the subject contextualizing himself in the world-disclosure of the text. The interpreter, thus, feels the return movement of the circle of interpretation in the form of a dawning awareness of himself in the light of the text; there is a lighting up of the horizon within which alone he could encounter anything, it is precisely this horizon that is seen in a new light. The world-disclosure unfolded by the text inscribes his own world of understanding within a wider frame, and thus enables him to call into question that world of taken-for-granted validities and values.

But the process is never complete in the sense that understanding reaches a terminus, a point of completeness; on the contrary, as we have already observed, a new circle of interpretation begins, having its own impulsion from new questions presupposing new forms of pre-understanding. It is this continual process of interogation and response mutually feeding each other and sustaining each other that makes the process of interpretation take the shape of an ascending spiral; for in this movement there is a progress and advance both in terms of a deeper understanding of the interpreter and his historical formation and the limits of that formation as well as a widening comprehension of the context and horizon of the object. In this double movement, the horizons of the interpreter and of the art object meet and fuse. It is in this fusion of horizons that we have the dawn of understanding, which is neither simply an understanding of ourselves in our presentness nor an understanding of the object in its pastness, but an understanding of ourselves as formed by the past and an understanding of the past as thus formative even in our contemporaenity as thus continuing its living presence within our critical sensibilities. But it is also an understanding of the past in the light of this critical awareness of it, and hence it escapes the fate of a mere conformity to what once had been. The cultural function of art is to serve as ambassadors of such a possibility, and the patron god of ambassadors for the Greeks was Hermes. He still is.

Notes and References

1. The theoretical framework of the present essay, particularly the discussion of signification and symbolization has been more elaborately dealt with in my *Towards A Critique of Cultural Reason* (Oxford University Press and Indian Council of Philosophical Research, New Delhi, 1987). Dr Rekha Jhanji's *Aesthetic Communication* (Munshiram Manoharlal, New Delhi, 1985) was brought to my notice too late for me to give it the careful consideration it deserves in the present essay itself. I regret this parti-

cularly, because I believe that on general principles the present attempt is compatible with her study. But a consideration of her book might have given me an oppurtunity to place my discussion in the context of Indian aesthetic theories. To mention just one such possibility: I believe that the present discussion of signification and symbolization could be related to the doctrine of *Rasa*, and thereby it could have gained considerably. I hope to come back to this connection on some other occasion.

2. Ranjan Ghose, 'Communication as Inessential to Art' in *The Indian Philosophical Quarterly* (Pune: University of Poona).
3. Susan Langer, *Feeling and Form: A Theory of Art* (London: Routledge and Kegan Paul, 1953), pp.29-30.
4. Ranjan Ghose, 'Communication as Inessential to Art'.
5. Charles Taylor, 'Self-Interpreting Animals' in *Human Agency and Language: Philosophical Papers*, (Cambridge: Cambridge University Press, 1985), p.45.
6. Immanuel Kant, *Critique of Judgement* (tr.) (London: Oxford University Press, 1911).
7. The reciprocity of intention and interpretation has been argued for in my 'The Essential Contestability of the Social Sciences', *JICPR*. Vol. II, No.I, 1983, New Delhi, and also in my *Towards a Critique of Cultural Reason* (forthcoming).
8. Paul Ricoeur, *Hermeneutics and the Human Sciences*.
9. Sigmund Freud, 'Wit and its Relation to the Unconscious' in *Collected Works of Sigmund Freud* (London, 1905).
10. The distinction between the hermeneutics of trust and the hermeneutics of suspicion is based on Paul Ricoeur's formulation in *Freud and Philosophy* (Yale University Press, 1970). However, I have used this distinction to a somewhat different purpose.
11. For the epistemological differences between Competence and Performance theories, see Thomas Macarthy, *The Critical Theory of Jürgen Habermas*. The implications of these differences are discussed in my *Innovative Competence and Social Change* (Pune: University of Poona), (forthcoming).
12. Ernst Kris, *Selected Papers on Psycho-analysis*.
13. For a fuller discussion of the modes of transcendence from signification to symbolization, see *Towards a Critique of Cultural Reason*.
14. Immanuel Kant, *Critique of Judgement*, Bk. i, The Analytic of the Beautiful, Sec.2, James Creed Meredith (tr.), pp. 42-44.
15. Ibid.
16. Plato, *Cratylus* (408 a-b) in *Dialogues of Plato*, Edith Hamilton and Huntington Cairns (eds.), New York, 1961.
17. Hans Georg Gadamer, 'The Historicity of Understanding as Hermeneutical Principle' in *Heidegger and Modern Philosophy*, Michael Murray (ed.), New Haven, 1978, pp. 161-840.
18. The diagrammatic representation of the hermeneutic circle is taken from Michael Murray, *Modern Critical Theory: A Phenomenological Introduction* (The Hague: Martinus Nijhoff, 1975.). However, the discussion of the process of interpretation is different from that of Murray.
19. The critical insight that interpretation is based on a fusion of horizons is, of course, based on Hans Georg Gadamer's *Truth and Method*.
20. E. Bultmann, *Existence and Faith: Concept of Revelation*, Schubert Ogden (tr.) (New York, 1960.).

Universalizability and contextuality

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I

This essay is not meant for those who, in some way or other, refuse to acknowledge *moral* values or for that matter *moral* principles. In view of the present-day do-as-you-like type of living, it appears, one might observe, somewhat comical to go in for a serious and committed discussion of *moral* values. But it might appear equally comical for us as *human* beings to offer a total and straightforward refusal to the acceptance of moral values and regard them as completely out of place in the framework of human existence. Be that as it may, the present essay has nothing to defend against moral scepticism or moral agnosticism. The present essay, again, does not intend to offer any justification for being moral; it rather assumes the reality of moral values or moral principles. And it attempts to understand the nature of *universalizability* (henceforth U) which is often referred to as one necessary mark of moral principles. Another important point to be kept in mind is that the objective of this essay is in no way to discover or prescribe any particular moral principle or principles. The objective, or to be exact, one main objective of this essay is rather to attempt an analysis of the *notion* of *ought*—of what we *mean* when we say that a principle *ought* to be followed from the *moral* point of view. Understood in this way, the present paper may be considered as meta-ethical in nature. Purporting, thus, to offer a purely conceptual analysis of *moral ought*, the present paper is clearly not in conflict—at least not in any direct manner—with 'the "a moralist" option', as Mackie puts it, 'of refusing to limit oneself to moral choices, and hence of refusing to let one's choices and conduct be constrained by. . . universalizability'.[1]

Broadly, two questions concern a moral thinker: first, upon what criterion or criteria a *principle* could be regarded as a moral principle, if it is so; and secondly, what requirements should be fulfilled in order that an *agent* be regarded as a moral one. The distinction is vital and must not be overlooked. If we turn to Kant, we would find that he has given distinct sets of 'criteria' for the two respectively. For the first, Kant advocates the famous principle of universalizability (henceforth PU). For the second, he states that an agent

An earlier draft of this paper was read in the Friday Seminar, Calcutta. I am very grateful to the members of this Seminar, especially to Professor Pranab Kumar Sen and Professor Debiprasad Chattopadhyaya, for their insightful comments and questions. In addition, I want to thank two of my colleagues, Professor Pradyot Kumar Mukhopadhyay and Dr Kalyan Sengupta, for their comments on this paper which have vastly improved the content.

is a moral one if and when he knowingly acts in accordance with a moral principle *and* acts purely for the sake of that principle, i.e. is thoroughly guided by the mere awareness that thereby he is performing a duty. Thus, even if a person does consistently act on moral principles, he may still fail to be a moral person if he has no idea whatsoever of the moral principles he follows and/or if he is never guided by the sense of duty. Anyway, we are here not concerned with the *agent's* being a moral person but with a *principle's* being a moral one. It is commonplace that men do distinguish different actions as good and bad *from the moral point of view*. And, usually, the credential of a good action is given in terms of some moral principle(s). Naturally, then, arises the question: on what ground(s) a principle could be regarded as a *moral* principle? What makes a principle a *moral* one? It is true that, in daily matters of discourse, people obey many principles as moral ones without caring to note exactly in what sense any such principle is honoured as a moral one. It is precisely to clarify the moral dimension of a moral principle that U is inserted and is claimed to be an essential mark of moral principles. Thus, it is proposed that *if* a given principle M is a moral one it *must* be universalizable. Note that U is proposed not as the necessary *and* sufficient mark, but only as the necessary mark, of moral principles. That is, U of M does not lead us directly or immediately to conclude that M *is* a moral principle. Rather, if M is *not* universalizable, we can immediately conclude that M is *not* a moral principle. Seen in this light, PU tells us, one might observe, what to reject rather than what to accept in the moral discourse. This is a very important point, and failure to fully appreciate this point may prompt one to conclude, quite mistakenly, that substantive moral maxims can be obtained directly out of PU, and that hence PU can be taken to provide an *immediate* foundation for morality. The fact that we can formulate some universalizable immoral maxims is, then, no embarrassment to PU which, by itself, intends *not* to generate, at least not directly, any moral maxim.

Anyway, it is often argued that if contextuality is accepted as one fundamental aspect of moral principles, no moral principle could strictly satisfy U. The present author does *not* endorse any such sharp opposition between contextuality and universalizability, and is inclined to believe that they can go hand in hand, non-trivially, with regard to moral principles. It is this belief that he would try to substantiate in the sequel.

II

It should be agreed that a moral principle is essentially a principle of action, and hence for man the identity and validity of a moral principle is determined crucially by its applicability to the actual course of human actions. Indeed, we often refute a moral principle by demonstrating its inapplicability. One important implication of this is that to establish a principle as a moral principle for man is to assume that people at least '*can try*' in some way or other to act on that principle. The phrase 'can try' here must not be understood in a purely abstract manner, but always in relation to the given set of conditions which the agent in question is then placed in. Otherwise, it might be evident, 'can try' would be reduced into a purely logical and empty notion, and in this way lose its *operative* force in the context of human actions. Sometimes, it is true, it does not appear pointless to recommend a moral principle which it *is* impossible for any man to realize *completely*. Thus, for example, we do not find any absurdity in entertaining the moral principle, 'You ought to try to be perfect', although we all normally agree that none of us as a human being could, in fact, *be* completely perfect. But it is extremely important to keep in mind that any such principle is invariably entertained by us in the spirit of an *ideal*, and that is why it would be nothing wrong to interpret the said principle as thus: 'You ought to try to be perfect *as much as you can*.' This qualifying phrase 'as much as you can' is always implicit in any such principle, without which the principle would, indeed, be of no import whatsoever for the existing man. But, surely, the principle, 'You ought to try to be perfect as much as you can', is *not* an impossible one for man. We shall have in what follows occasion to come back again to this point. But one thing must immediately be pointed out, namely, that to view a moral principle as essentially a principle of action and hence always with reference to the existing conditions of any human agent is not necessarily to deny '(moral) values in themselves', i.e. values that are values, though, admittedly, no one can try to translate them in concrete actions. Thus, we have no quarrel with those who, like Russell,[2] argue that the fact that a principle is impossible to follow affords no evidence that it is not a good one. But, surely, such a principle cannot be offered to man as a principle of *action* and hence not as a moral principle (ought-principle) *for him*.

The term 'universalizability' is introduced in the moral discourse, as far as I know, first by G.C. Field.[3] The notion, however, is not a new one. One is readily reminded of Kant's famous Categorical Imperative, or even before that, of the Golden Rule. PU, however, finds its formulation in various ways in ethical literature.[4] The closest to the one we are concerned with here is found in Sidgwick's *Methods of Ethics*: 'If a kind of conduct that is right (or wrong) for me is not right (or wrong) for someone else, it must be on the ground of some difference between the two cases, other than the fact that I and he are different persons'.[5]

Before proceeding further, a word of caution may be added: U of a moral principle is not to be confused with its factual universality, if any. When a moral principle M is alleged to be universalizable, it is not meant that M is, in point of fact, followed by everyone. This would be patently false in most cases. The claim is rather that M *ought* to be followed by everyone. Now, if and when M is tendered as a moral principle to *man*, it should be the case, as is already pointed out, that he is at least able to make some attempt to follow

M in actions; otherwise it would be utterly pointless to tender M as an ought-principle to *him*. In other words, U of M does *not* mean, as some thinkers take it to mean,[6] that M ought to be followed by *everybody whatsoever*; *to* say so would, it might be evident, run the risk of making M virtually a vacuous principle of action. The phrase 'to try' in our formulation of U is, thus, crucial. In our formulation, U of M, then, would mean that everyone ought to make some sincere attempt—the best he can make in the situation—to act on M, if and when he faces any relevant occasion. Suppose, to save a child from being drowned is a moral principle. Surely, a person who cannot swim cannot be asked to jump into the water and drag the child on to the shore. But what the person ought to do here is to make sincerely some attempt—the best he can make in the given circumstances—to rescue the child. If the person is, *in no possible way*, able to make attempt to rescue the child, then, evidently, it would be utterly pointless to say that *he* ought to save the child from being drowned. We shall shortly return to this point.

III

Let us now see whether we can find out any *test* that would ensure the presence of U in a moral principle. The question, when we could conclude that a given principle M *is* universalizable, may be approached indirectly. We may, that is, begin by asking when M may be said to be *non*-universalizable. Now, there seem to be four ways in which it may become impossible to universalize M. In the first place, M itself may be intrinsically impossible to realize. For example, any M that would require one to square the circle or to kill the immortal, and the like would be intrinsically impossible to follow in the sense that it is *logically impossible* for even a single individual to follow the alleged M.

In the second place, M, though not an intrinsically impossible principle, may be of such a nature that it cannot be *conceived as a universal practice*. The principle of becoming a slave may be an example. If everybody became a slave, there would be no slave holders, and consequently nobody could become a slave. The principle of sacrificing the whole of one's happiness to make someone else happy may be another example. This principle is not an intrinsically impossible one, for, like the slave principle, any particular individual can—and, indeed, some of us do—sacrifice the whole of his happiness in order to make someone else happy. But it is clear that, if everyone sacrifices the whole of his happiness, no one can be happy. In other words, no one can secure anyone's happiness in a world in which everyone sacrifices the whole of his own happiness. Hence the principle of sacrificing the whole of one's happiness to make someone else happy cannot be conceived as a universal practice.

Thirdly, it may simply be *factually impossible* for any of us to make any attempt whatsoever to follow M. This sort of impossibility is grounded mainly

in some basic limitations peculiar to the very constitution of human beings; thus, it is, in fact, impossible on our part to read in the total absence of light. That is, it would be impossible on our part to actually follow any M in a given situation, if there is no *real opportunity* for us for making any attempt whatsoever to follow M in that situation. One may put the point by using the famous pronouncement of Kant (though not exactly in the Kantian sense): *ought* must be backed by *can*. The 'can' here will be unintelligible or obviously inappropriate unless it is understood in view of limitations of human abilities. It may, however, be that the agent is totally ignorant of his ability to do something, i.e. does not *know* that he can, in point of fact, follow M. Perhaps he never tried; had he tried, he would have succeeded and come to realize that he can follow M. Hence the need of making *sincere attempt* to follow M. Again, the case may be like this: the agent is *diffident* of his ability to follow M, i.e. thinks that he will not succeed on this occasion if he tries. This also does not exclude the need of *trying* to follow M, if occasion arises. The worst sort of these variations would be the following: the agent cunningly tries to escape the incumbency of a moral principle in a given situation by *falsely* declaring that he is totally unable to make any attempt whatsoever to follow the principle in that situation. But this is clearly an issue concerning the *authenticity* of ourselves as human beings with which we are not presently concerned. Anyway, since no *moral* considerations are of any relevance in regard to the *actual* ability of an agent, this does not hamper the logic of the moral principles themselves.

The fourth kind of impossibility may be viewed as a somewhat theoretical one. Thus, a principle M may be said to be non-universalizable, if it is impossible on my (anyone's) part to will *consistently*[7] that M should be followed in action by everyone. In other words, if it is the case that I *cannot* will that M should be followed by everyone, unless I, in my willing so, make myself an exception to M, thereby placing myself outside the scope of M, then M would become non-universalizable, because this would clearly make it impossible for me to will that M be followed by *everyone*. The class of *everyone* surely includes me as a member. So, if my very willing that M be followed by everyone requires me to fall outside the domain of everyone, then surely the phrase 'everyone' would fail to retain its distinctive sense, and in that case it would evidently be wrong to conclude that I can *consistently* will M to be a *universal* principle of action. An example may help us. Let us take the celebrated case of lying. The intention of a liar, it might be agreed, is two-fold: first, he intends to give the impression that he believes in something which he actually does not believe in; secondly, rather simultaneously, he intends that the hearer must not be able to recognize this. Put differently, to tell a lie means to make some false statement(s) for deceiving in some way or other the hearer. A fairy tale, thus, should not be taken as a lie, because it will not deceive the hearer, for he is not expecting the truth. Whenever, then, I tell a lie, I intend to make some false statement (s), thereby to deceive

whom I tell it. Now, if I will that lying should, in point of fact, be practised by *everyone,* then, strictly speaking, I should allow myself to be told lies and thus be deceived by anyone else. But, on the other hand, it seems rather undeniable that the very idea of my lying *is* to deceive another *and* not myself to be deceived by anyone else. For, otherwise, the whole point of *lying* would be frustrated. In brief, my will to tell a lie *excludes* the will of myself being told lies by anyone else. But if, on the other hand, in my very willing that lying be, in fact, practised by everyone I will to close the possibility of *my* being told lies by anyone *else*, then, virtually, I make it impossible on my part to will that lying should, in fact, be followed by everyone. To put the point succinctly: in willing to universalize the principle of lying I find myself committed simultaneously to willing that I be deceived and that I not be deceived. Hence lying is not consistently willable by *anyone* to *be* a *universal* practice.

These, then, are the four ways in which it may be impossible to universalize a given principle M. Consequently, we may conclude that M is *universalizable,* if and when none of the above sorts of impossibilities would hold with regard to M.

IV

Next comes an associated but more important question: is U of M context-invariant? That is, when it is said that M ought to be followed, is it meant that M ought to be followed *no matter what* circumstances obtain? Certainly, it might be agreed, there are moral principles that may be regarded as 'ought-principles' minus reference to any concrete situation. For example, it would be nothing absurd to say without making reference to any particular situation: 'Man ought to keep the promise he makes.' These kinds of *oughts* may be called, following Sir David Ross, '*prima facie* oughts'. These *oughts* are *prima facie* not in the sense of being pseudo-oughts but in the sense that we cannot be sure whether any such *ought* would lose the force of its *oughtness*, if and when considered in the perspective of some given situation of a certain sort. These *oughts,* thus, cannot be declared a priori as absolute ones. These *oughts,* to be sure, are addressed to man in an abstract manner, and remain open to be questioned in the face of some given situation of a particular kind. In view of this, Ross calls our attention to another, a rather concrete kind of *oughts,* which he aptly terms as 'all-things-considered oughts'. It must be clear that any *ought* of this kind would, of necessity, lose its intelligibility as an *ought*, if isolated from the situation in which it is held to be an *ought.* Indeed, whenever anyone is *actually* to follow *any* moral M, he is to follow it, of necessity, in a given set of circumstances. Clearly, then, context-invariance in regard to M cannot mean the *absence* of circumstances. We may, in view of this, take context-invariance to mean the *total* irrelevance of the circumstances (in which M is followed) to the determining of the *oughtness* of M. We may, then, rephrase our earlier question thus: whether or not the

context in which M is at any given time followed does play any role in determining the issue whether or not M *ought* to be followed in that context. One way of answering this question is that the given context has *nothing* to do with the issue whether or not M *ought* to be followed in that context. This is because, as may be claimed, if M *is* a moral principle, then it is so in terms of its own intrinsic merit alone, and hence its *oughtness* cannot be said to derive in any way from the situation in which M is incidentally placed. But this type of argument appears to lose strength in the face of what is known as the conflict of duties or the puzzle of moral dilemma. This kind of moral dilemma arises rather inevitably because of what Mill calls 'the complicated nature of human affairs'.[8] The most basic form that moral conflict can take may be illustrated by the type of situation in which it seems that I (morally) ought to do each of two things, but I cannot do both. To take a very simple example: suppose, I promise to keep a secret, and then someone else asks me about it. Evidently, I cannot both keep my promise and speak the truth. Now, imagine that, in this particular case it is, for some reasons or other, impossible for me to evade a straightforward answer, i.e. I cannot here either remain silent or give an 'I don't know' type of reply; that is, suppose that in this case I must have either to speak the truth, thereby break the promise; or I have to tell a lie. In case that all these conditions hold good in a given situation, and if to keep promises and to speak the truth are both moral principles, then how to act in such a situation? Again, we sometimes find that an admittedly moral principle is forbidden morally in a particular given situation. It is normally agreed that the principle of speaking the truth is a moral principle. Now, imagine a situation where my telling the truth would inevitably lead to the murder of an innocent person and I know this; imagine further that, in this situation too, I am either to speak the truth or tell a lie. *Could* I in this situation tell the truth?[9]

The 'intrinsic merit theorist' (IMT) might retort that not all the moral principles are of *equal* intrinsic merit, and hence a particular moral principle may enjoy *more* intrinsic merit over another. Consequently, the priority-assignment in regard to different moral principles, as may be argued, may be made in terms of the respective 'inner strength' of the individual principles.

It is, however, very hard to see how a particular moral principle may be judged to be 'more pressing' than another *solely* in terms of a comparison of their individual 'intrinsic merit', if any, *without in any way* judging the principles in the light of the given situation. The IMT evidently requires a gradation of moral principles in terms of themselves alone—a view which I myself find really disturbing to accept. I am yet to see in what exact sense the 'inner merit' of a moral principle, taken by itself, can be judged to be 'more' than that of another, taken by itself. Would we turn toward some independent criterion that would determine the priority-gradation of the competing moral principles? But if any such external determining principle D is provided, then the further demand would naturally arise as to how to fix up the rationale

of D as the determining principle? Another D^1? An infinite regress would result. The IMT might try to settle the issue by making an appeal to what is now famous as the faculty of intuition. It is our intuition, he might contend, a peculiarly powerful faculty possessed by each of us, that would reveal the graded strength of the intrinsic merit of different individual moral principles. I must confess, in this connection, that I find nothing absurd with the view that something may be a *moral value* solely in virtue of its own nature. Maybe that the moral worth, if any, of something cannot be said to be grounded into any extra-moral factors. But this is not really relevant to our present discussion. The point at issue here is not whether or not there is anything that could be said to be intrinsically good, the goodness of which is detectable by the faculty of intuition. The issue is rather whether a certain principle could be recommended as a moral one—as one on which someone *ought* to act—without bringing into consideration, in any manner, the nature of the very situation in which the principle will have to be acted upon. Stated differently, our task here is not to discover values in general, such as, speaking the truth, being honest, and so on. Our issue is more specific: whether or not someone should tell the truth, or act honestly, in a particular given situation. And we ask; can intuition be strong enough to settle *this* issue with no consideration whatsoever of the situation? Indeed, in practical situations, the knowledge of a set of moral principles is never *all* we need to answer practical moral questions. For this we have to probe into the very situation we are then placed in. Again, moral obligations often involve conflict, in which case we are to choose between two or more conflicting obligations in a given situation. And we ask: could anyone make *this* choice without, in any way, taking into account the situation in which the conflict arises? The answer, as we are continuously suggesting, seems to be in the negative.

V

If we are correct so far, we can draw the following conclusion: no moral principle could be treated as an ought-principle, indiscriminately, in contexts of all kinds, and hence the question of a moral principle's being universalizable can hardly be tackled independently of its situational aspect. To say, then, that a principle M is moral is to say that M ought to be followed *in a given situation* S. This S-limitation of M can never be got rid of, and so, keeping this S-limitation of M intact, we are to show in what manner M could be regarded as universalizable. In order to be universalizable, we must remember, M must not suffer from any of the four kinds of impossibilities discussed above. Now, the answer we give to the question of how M is universalizable despite its S-limitation may appear extremely naive. But we believe that this is the way we normally, and in all likelihood correctly, take the universalizability of a principle to mean, if and when we treat the principle as a moral one. The answer is this: if M is a moral principle, i.e. if M ought

to be followed in S, then M ought to be followed in *all* situations that are typically similar to S. PU, in other words, requires the acceptance of the notion of a situation as a type situation, of which there could be other specimens. The notion of typical similarity, thus, is based upon the assumption that, given any situation S, S must be such that it is possible to specify certain features of S as its 'central features'—features that could also be present in any other situation, in terms of which we can determine which other situation than S should be treated as a S-type one. Taken this assumption as true, the notion of typical similarity, it might be observed, saves PU from being vacuous or inapplicable. One could frame a rule, without using proper names, in such a manner that it becomes impossible that the rule, though it appears to be universal in character, could, however, because of its own content, be applicable to one particular individual and to none else. In other words, someone could frame a rule, without using proper names, in such a way as to exempt only himself from the scope of that rule, although the scope of the rule seems universal. Take, for example, this rule: '*All* persons shall be punished for telling a lie unless they are of 7′ height, 91 pounds in weight, have dark eyes, etc. etc.' until the qualifications became so specific that only oneself is exempted from the punishment. Clearly, no *other* specimen-situation of the situation, described in the above rule, could be conceived of, if we are to keep intact *all* the qualifications stated in the rule. Hence the need of specifying *certain* features as the 'central features' of any given situation. If a situation is so unique in character that it is altogether impossible to find out *any* central feature of it that could ever be present in any *other* situation, then, we wonder, whether any decision, made by anybody in the context of *this* situation, could at all be treated seriously as a *moral* decision. We shall return to this question in what follows.

At any rate, it must be confessed that the notion of 'typical similarity' is extremely difficult to unpack and hence difficult to state with exactness. It is hardly possible to distil out any quintessential 'core' of the situations recognized as typically similar to each other, and it is hardly possible to nail down the 'typically similar' features of such situations in precise terms. Anyway, to begin with, it must be clearly kept in mind a rather trivial point— that *similarity* is by no means *identity*. In point of fact, no two situations will ever be *exactly* alike; even if they were, they would still be numerically different, just because they are two. Again, one and the same situation may be described differently, e.g. (i) A is greater than B ($A > B$), and (ii) B is smaller than A ($B < A$). But, clearly, this 'sameness' does not illustrate 'typical similarity'.[10] In the face of this, we may propose the following as illustrating 'typical similarity'. Two situations S_1 and S_2, though differ in many respects, carry certain distinctive common features—some 'central features'—in virtue of which they can, for all practical purposes, be accepted as of the same type. Consequently, in order to determine whether S_1 and S_2 are typically similar, we are to exclude or ignore many of the differences and similarities as *irrelevant*.

To say otherwise, in order to determine whether S_1 and S_2 are typically similar, we are to judge whether S_1 and S_2 be said to share a sufficient number of *relevant* features that would entitle us to conclude that they are typically similar. It may be that what is *ought* to me is not so to you; but if it is, this can only be because there is some difference in respect of *relevant* features between you and me, or between your situation and mine. It should be obvious that there could not be any a priori or purely formal procedure for detecting the relevant features, if any, of different situations. It is only when the situations are concretely given that we can enquire and eventually specify the relevant features which would make them typically similar, if they are so. It should be clear that it would not be a quite easy task always to specify the relevant common features of two (or more) situations, if and when they have any; and, occasionally, it might become extremely difficult to find out the relevant common features of two (or more) situations that would be agreed upon by all. This kind of disagreement as to what would be the relevant common features of S and Sn and, for that matter, whether S and Sn are typically similar or not, arises mainly when people differ with regard to giving emphasis on, or assigning priority to, different particular features of S and Sn. We may, however, suggest some guidelines—not entirely bereft of moral connotation—that would help us to determine whether two (or more) given situations bear relevantly similar features, thereby becoming typically similar to each other. These 'guidelines' are by no means to be taken as 'criteria' of typical similarity, because since these guidelines themselves carry some moral connotation, to treat them as *criteria* of typical similarity in the context of moral questions would involve, ultimately, a sort of circularity. Anyway, the first guideline may be given in terms of what Rabinowicz calls 'obligation-structure'.[11] If a certain situation S makes it morally obligatory for us to do x, then S would be said to have 'X-ing obligation-structure'. And any other situation Sn would be said to have 'X-ing obligation-structure', if and only if Sn makes it morally obligatory for us to do X. And, in this case, S and Sn would have the same 'obligation-structure', and hence be typically similar. The second guideline may be given with the help of the notion of reasons. Usually, a principle M is recognized as morally obligatory in a certain situation S in terms of some *justifying reasons* R. Not that we are always able to articulate R. But it may be agreed that, if and when M *is* acknowledged to be morally obligatory in S, it is also acknowledged that there must be some R that would make the obligatoriness of M in S valid and evident. Now, if it is the case that the same set of R prevails in S and Sn, that would imply that both S and Sn have M-obligation-structure, and hence would be regarded as typically similar. Typical similarity, thus, in regard to many situations, may be taken as expressive of a particular *class* of situations, of which class the alleged situations would be members.

After having tried to make the notion of typical similarity somewhat clear, we wish to propose the following thesis: to say that a moral principle M is

universalizable is to say that anyone ought to try to act in accordance with M in any of the member-situations of a particular class of typically similar situations.

VI

Before we conclude we must say something about why a moral principle has to be universalizable at all. This question may be rephrased thus: why should it be the case that, if M is an ought-principle in a given situation S, M would be so in any other situation Sn which is typically similar to S? To answer this question, we once again exploit the notion of justifying reasons. The most important of the logical demands is that, if and when M is regarded as a moral principle in S, it should be regarded so in virtue of some reasons R that justify it is a *moral* principle in S. If so, then if R are present in any Sn, naturally in Sn, too, M would have to be regarded as a moral principle. One may ask here; why should it be so that, if R justify M as a moral principle in S, R would also justify M as a moral principle in any Sn? I for myself find really no other answer than to contend that it is so because R constitute a set of *justifying reasons*. If R *do* justify M as a moral principle in S, could R fail to justify M as a moral principle in any other situation that is typically similar to S? Truly speaking, the universality of reasons over persons, placed in typically similar situations, seems rather a fundamental and hence further unanalyzable truth. Let me, however, try to explain the point a little more.

Usually, a principle is regarded as a moral one in a certain situation not in virtue of any rule of thumb, but in virtue of some justifying reasons. Indeed, the claim that M *is* a moral principle in S would lose its intelligibility if *no* justifying reasons are provided in support of the claim, in which case there could not be any genuine moral dialogue—be it a case of moral disagreement or not. Can we treat cases of moral disagreement as essentially arbitrary? But it is widely believed that our moral views *matter*, that they play a very important part in the kind of life that is most worth living. But this would hardly make sense if our moral views are taken to be mere subjective fancies. It is thus extremely important to recognize that the very fact of genuine moral dialogue—especially when it is one of moral disagreement—suggests the need of justifying reasons in regard to a *moral* claim. Otherwise, the whole point of making any serious moral dialogue—in particular when the two respective parties are in disagreement on a moral issue—would ultimately be reduced to a rather 'matter of *mere* opinion' type of conversation. Indeed, the need for justifying reasons as regards any *moral* claim seems to be built into its very structure. As Gewirth observes:

> Every right-claim...is made...for a certain reason that is held to justify the claim...without such a reason, [the person who upholds the right] would

be making not a right-claim but only a peremptory demand akin to that voiced by a gunman'.[12]

In other words, any *moral* claim, in order to be so, has to be *justified* to be a *judgement* rather than a mere belief or opinion. Once the notion of there being a justification for treating a principle as a moral one is discarded, all distinctions between genuine moral principles and modes of behaving claimed as moral purely on whims or vagaries, i.e. between reasonable and unreasonable moral positions, have to be swept aside. Indeed, the existence of justification for M in S saves the moral claim about M from being dogmatic or arbitrary. To hold that a moral judgement or assessment *is* merely an expression of someone's individual sentiment is a way of abandoning the very attempt to *judge* or *assess* anything whatever as moral. Used honestly and consistently, therefore, sentimentalism in ethics would be self-defeating. In other words, if M is genuinely a moral principle in S, it is implied that there are some R on the ground of which M *is* a moral principle in S. This is not to say that any R, if and when regarded as justifying reasons for M's being a moral principle in S, are to be taken as absolute ones, being not open to further revision or even rejection in future. But this much might be agreed that, if and when M is acknowledged as an *ought-principle* in S, some R need be appreciated and acknowledged, at some level or other, as fairly convincing by themselves, as justifying reasons for M's being a moral principle in S, i.e. as fairly convincing reasons by themselves that *do* justify M as an ought-principle in S. Any such R, it might seem clear, would continue to be taken as 'fairly convincing justifying reasons by themselves' for treating M as an ought-principle in S, till the appearance of any overriding argument(s) that might question the validity of R as sound justifying reasons for M in S. If we, thus, do not find out and appreciate some R at some stage or other as fairly sound justifying reasons by themselves for M's being a moral principle in S, then the whole point of regarding M *as* a moral principle in S might well become, to repeat, a matter of *mere* sentiment, in which case the very moral claim would lose its very credibility. If this far be admitted, then it should also be agreed that, when M is accepted as a moral principle in S upon some R as justifying reasons (in the sense spoken of above), R are to be acknowledged as *sufficient* for accepting M as a moral principle in S. And if R are in this way acknowledged as *sufficient* for M's being a moral principle in S, then, indeed, in any S-type situation, i.e. in any situation that contains R, M must have to be regarded as a moral principle. To deny this would be to deny R as sufficient reasons for M's being a moral principle in S. If, on the other hand, R are regarded as sufficient reasons for M's being a moral principle in S, then to deny that M in any other situation is a moral principle, although R are present therein, would involve inconsistency.

Sometimes, it is alleged that there may be a situation in which a decision is made without adhering to any justifying reasons, because no such reason

is and could be made available in that type of situation. Sartre's famous example is often referred to in this connection. A young man was in doubt whether to join the Free French forces or to stay at home to look after his widowed mother.[13] The young man here had to come to a decision without any objective reasons that could be said to justify his decision, because the case was such that no such reasons could be invoked. Granted, but what is important to enquire here is whether the young man's decision in the particular situation should be branded as a *moral* one.[14] If it is claimed that his decision was a *moral* decision, that he *ought* to decide thus-and-so in that situation, then I wonder whether at all the claim can stand *without any justification* in its support. Failure to recognize this point in its true meaning has prompted many to become doubtful about the U-dimension of moral decisions. A.C. MacIntyre, for example, writes: 'Someone faced with such a decision [as Sartre's young man] might choose either to stay or to go without attempting to legislate for anyone else in a similar position'.[15] The crucial thing to notice here is that MacIntyre says 'to stay', and makes no mention of 'ought to stay'. The real issue here is whether we would at all treat 'such a decision' as an 'ought-to-decide' type of decision. In other words, the question is whether it would be in order to treat any decision as an *ought*-kind of decision *minus* any justification in support of so treating. To this we are inclined to give, as it might be quite clear now, a negative reply. It should be remembered, however, that the justification given in support of a certain moral decision may be found inconclusive or even untenable on further analysis. In cases of these sorts, it may be agreed, the given reasons would not constitute *justification* in the full-fledged sense, and the decision taken in such a case may be treated as a decision taken in ignorance, and hence can hardly be acknowledged to be a genuinely moral decision. But if and once a decision is regarded as a genuinely moral one in a given situation, it should be reagrded so upon some reasons that could truly justify the decision as a moral one in that situation. If so, then in any situation in which these reasons hold, i.e. in any situation typically similar to this situation, one ought to take the same sort of decision.

VII

Our thesis, then, is built on three conclusions: the first, a moral principle is to be universalizable; the second, any principle, if moral, is so from the perspective of a given situation; and the third, there is a way in which, from any given situation, we can specify a class of 'typically similar situations'. If these three conclusions are intelligible and acceptable, then, by combining them, we get the following: a moral principle does not lose its universal character despite the fact that it is recognized as a moral principle *vis-à-vis* a given situation. Situation ethics, thus, does not necessarily collapse, as is often claimed, into sheer relativism, and for that matter into a sheer 'suits my palate' type of

attitude. Those who fail to see the legitimacy of situation ethics really fail to recognize the need of looking at moral principles from within the arena of lived life. But those who, on the other hand, insist on restricting the moral aspect of a given principle, if any, to *only that* situation in which it is regarded as a moral principle, fail to appreciate the true significance of the *moral* dimension of moral principles, forget that any moral stand must make room for reasoned argument and in this way must intend to be acceptable to all. Hence the need of reconciling contextuality with universalizability, in support of which the present paper has, we believe, offered some grounds.

Notes and References

1. J.L. Mackie, 'The Three Stages of Universalization' in his *Persons and Values: Selected Papers*, ed. Joan Mackie and Penelope Mackie (Oxford: Clarendon Press, 1985), p. 171.
2. Cf. Bertrand Russell, 'The Elements of Ethics', *Philosophical Essays*, A Clarion Book, (N.Y., 1966), p. 24.
3. See his *Moral Theory* (London: Methuen, 1921). In this book, we find reference to 'the possibility of being universalized' (p. 25); 'actions... which could not possibly be universalized' and 'attempts to universalize' (p. 38). However, the phrase 'universalizable' is made famous in the field of ethics by R.M. Hare. See his 'Universalizability', *Proceedings of Aristotelian Society*, 1954-55, pp. 295-312.
4. For example: (*a*) Moral properties of things (persons, actions, states of affairs, situations) are essentially independent of their purely "individual" or "numerical' aspects' in W. Rabinowicz, *Universalizability* (Dordrecht: D. Reidel Publishing Company,1979), p. 11. (*b*) 'Each person is to have an equal right to the most extensive basic liberty compatible with a similar liberty for others' in John Rawls, *A Theory of Justice* (Cambridge, Massachusetts: Harvard University Press), 1971, p. 60. (c) 'If the consequences of everyone's doing some action X would be undesirable, then no one ought to do X' by M.G. Singer, *Generalization in Ethics*, (New York: Alfred Knopf, Inc., 1961), p. 66.
5. H. Sidgwick, *Methods of Ethics* (London, 1907), p. 379.
6. See, for example, Bernard Mayo, *Ethics and the Moral Life* (New York: Macmillan, 1958), p. 91. He there writes:' (a moral principle) must be universalizable in the sense that it applies not only to me but to you; not only to you but to me; not only to us but to everybody....'
7. For an interesting discussion about how a principle of action may involve inconsistency even when universalizing is not brought into the picture, see Onora O'neill, 'Consistency in Action' in *Morality and Universality*, Nelson T. Pottar and Mark Timmons (eds.) (Dordrecht: D. Reidel Publishing Company, 1985), pp. 167-72.
8. J.S. Mill, *Utilitarianism*, ch. 2.
9. For a philosophical discussion of *moral conflict*, see B.A.O. Williams, 'Ethical Inconsistency', *Practical Reason*, ed. Joseph Raz (London: Oxford University Press, 1978).
10. Here reference may be made to what Quine called the *indiscernibility of identicals*, according to which if a group of things are identical, i.e. are really one thing, though perhaps described in different ways, they have all their properties in common.
11. See W. Rabinowicz, *op. cit.*
12. Alan Gewirth, *Reason and Morality* (Chicago: University of Chicago Press, 1978), p. 104.

13. See Jean-Paul Sartre, *Existentialism and Humanism*, tr. Philip Mairet (London: Methuen & Co. Ltd., 1948), p. 35.
14. I am not denying that there may arise occasions in one's life where one may absolutely fail to give any reason whatsoever for what he does, although the person himself, in the heart of his heart, may well be convinced about the rationality of his action. Situations of this kind illustrate what may be called cases of 'authentic action'. But what I doubt is whether these sorts of action can be regarded as actions of which we can legitimately say, 'One *ought* to do this action'.
15. A.C. MacIntyre, 'What Morality Is Not', *Philosophy*, XXXII, 1957.

Davidson on language and rules

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I

Donald Davidson has put forward the thesis that rules are not necessary to the existence of communication by language, rather they are convenient but contingent features of language. To quote from what he has recently stated:

> In conclusion, then, I want to urge that linguistic communication does not require, though it very often makes use of, rule-governed repetition; and in that case, convention does not explain what linguistic communication is, though it may describe a common feature[1] (Davidson 1983: 24; 1984: 279-80).

He states further in support his remarks:

> ...convention is not a condition of language. I suggest, then, that philosophers who make convention a necessary element in language have the matters backwards. The truth is rather that language is a condition for having conventions (Davidson 1983: 24; 1984: 280).

Davidson's thesis, in my view, carries within it several weaknesses. In this paper I intend to discuss them and develop my argument to counter the main thrust of his thesis.

According to Donald Davidson, there are three different non-competing types of theories to show that conventions are essential to language:

> ...first, there are theories that claim there is a convention connecting sentences in one or another grammatical mood (or containing an explicit performative phrase) with illocutionary intentions or some broader purpose, second, there are theories that look to a conventional use for each sentence, and third, there are theories to the effect that there is a convention that ties individual words to an extension or intension. (Davidson 1983: 13-14; 1984: 266).

Davidson develops arguments to refute all these three types of theories. I shall try to show that Davidson's arguments against first and the third type of theories are invalid. I shall not refute the arguments of Davidson against the second type of theories, as I myself find his arguments convincing and am

in agreement with him that, that is not the way how conventions are involved in language. Apart from showing the invalidity of Davidson's argument against the first and third types of theories, I shall try to develop arguments to show why conventions are essential to language.

II

As an example of the first type of theory, Davidson takes Michael Dummett's view that there is a convention that governs our use of declarative sentence. Michael Dummett has put this thesis recently as:

> ...the utterance of a (declarative) sentence does not need a particular context to give it a point...The utterance of a sentence serves to assert something...there is a general convention whereby the utterance of a sentence, except in special contexts, is understood as being carried out with the intention of uttering a true sentence (Dummett 1973: 298).

It appears Donald Davidson has not interpreted this thesis correctly. He reads two thesis in Dummett's view. First, 'there is a conventional connection between uttering a declarative sentence and using it to make an assertion,' and second, 'there is a conceptual (and perhaps conventional) connection between making an assertion and the intention to say what is true' (Davidson 1983: 14; 1984: 266). But Donald Davidson reformulates the second thesis while criticizing it. He says: 'The second point of Dummett's claim is that there is a convention that in making an assertion a speaker is "understood" to be speaking with "the intention of uttering a true sentence" (Davidson 1983: 11; 1984: 270). To me it appears this pinning of double convention in assertion on Dummett is wrong. There is only one convention linking the utterance of the sentence with making of an assertion. The last part of the quotation from Dummett does not speak of a separate second convention, rather it clarifies what is partly involved in the making of an assertion. According to Davidson, the second convention links 'making of an assertion' with 'the intention of uttering a true sentence,' while in the quotation from Dummett, the last part links 'the utterance of a sentence' with 'the intention of uttering a true sentence.' Hence, in my view, the last part of the quotation must be understood as a mere explanation of what has already been said in its first two parts by way of elaborating what is involved in asserting something.

Having settled the point of interpretation, let us look into Davidson's arguments against Dummett's thesis. According to Donald Davidson; ...there is no general presumption that someone who utters a declarative sentence wants or intends to speak the truth...' (Davidson 1983: 15; 1984: 268). The reason for this is: '...people who utter a sentence do not usually want to speak true sentences. Sometimes they do, and very often they don't

...' (Davidson 1983: 15; 1984: 268). After all people tell stories, make joke, annoy a bore, etc. But this observation does no harm to Dummett's thesis. For, according to Dummett: '...there is a general convention whereby the utterance of a sentence except in special contexts, is understood as being carried out with the intention of uttering a true sentence' (Dummett 1973: 298). The phrase 'except in special contexts' may take care of the counter examples.

But, according to Davidson, this defence is incorrect, 'for what constitutes the making of an assertion is not governed by agreed rules or conventions' (Davidson 1983: 15; 1984: 268). According to him:

> ...we may be able to say what it is in the context that makes it an assertion, though in fact I think we can say only some rather vague and incomplete things. But even if the necessary and sufficient condition were explicit and agreed upon by all hands it would not yet follow that the conditions were concentional. We all agree that horses must have four legs, but it is not a convention that horses have four legs. (Davidson 1983: 16; 1984: 269).

That is to say, some feature of the context contingently, as a matter of fact, help in making the assertive intention clear but not due to convention or a rule.

Davidson gives the following argument to show why there cannot be any convention to make our assertive intention clear. He begins with the enunciation of a correct principle: 'If there is a conventional feature of language, it can be made manifest in the symbolism' (Davidson 1983: 16; 1984: 269). And so if there is a convention of assertion, a symbol can be introduced for it. And we know that Frege introduced the turnstile '⊢' as the sign of assertion. But this will not work, according to Davidson. He gives an example of an actor acting a scene in which there is supposed to be fire (Davidson 1983: 16; 1984: 269-70). Acting as a man trying to warn others, he screams persuasively, 'Fire! I mean it! Look at the smoke!' etc. And now a real fire breaks out, and the actor tries vainly to warn the real audience. 'Fire!' he screams, 'I mean it! Look at the smoke!' etc. Now the assertion sign would not have helped him, for he would have used it in the first place when he was only acting. According to Davidson:

> Similar reasoning should convince us that it is no help to say that the stage, or the proscenium arch, creates a conventional setting which negates the convention of assertion. For if that were so, the acting convention could be put into symbols also, and of course no actor or director would use it, (Davidson 1983: 16; 1984: 270).

So he concludes:

> There is no known, agreed upon, publicly recognizable convention for

making assertions or for that matter giving orders, asking questions, or making promises. These are all things we do, often successfully, and our success depends in part on our having made public our intention to them. But it was not thanks to convention that we succeed. (Davidson 1983: 16-17; 1984: 270).

Davidson's argument, on the face of it, is very persuasive, but, on close scrutiny, it turns up invalid. The example given by him does not succeed in showing that the actor failed to convey that his was a warning. What the actor failed to convey was that he was warning simpliciter and not in the drama. A character can make assertions, ask questions, give orders, express wishes within the story and drama, as we do in real life. Now, when an assertion is made by a person in real life or by a character in a drama, it is done with the help of linguistic convention. But we must depend on various features of the situation to convey or realize that the assertion is made in real life and not within a story or vice versa. So the argument given by Davidson does not succeed in showing that the making of an assertion is not conventionally related to uttering a sentence in appropriate mood. What he succeeds in showing is that the distinction between an assertion in real life and the same within a story is not a matter of convention, but depends on the features of the context of making the assertion.

It may be argued: what about story-telling lines? I think it is standardly assumed that the story-telling lines like 'Ram married Sita', uttered in the context of telling story of the *Ramayan*, must be analysed in such a way that it does not turn out to be, an assertion. This is nothing but a dogma. Elocutionary function, performed in uttering 'Ram married Sita' when telling story of the *Ramayan*, is exactly the same as the elocutionary function performed in uttering 'Charles married Diana' in the context of narrating the important events of recent past. In both contexts, these utterances are assertions. The only difference is that the truth condition of one obtains in a fiction, while the truth condition of other obtains in the real world.[2] In both contexts, the assertion is made by following linguistic convention. But whether the assertion is a part of a report or a story is not determined by the convention. One must have recourse to the context including what the speaker says.

Even if Davidson's argument is invalid, can't it still be the case that his contention that we succeed in making assertions not because of conventions is correct? I think the answer is in the negative.

While teaching language to a child we often have occasion to criticize and correct him for using sentences in wrong grammatical moods to make assertions, ask questions, etc. This we do despite the fact that the child has succeeded in conveying, through other clues including verbal ones, whatever assertions he wants to make or whatever questions he intends to ask. In fact, without this information we shall not be able to correct the mistake of the

child. Now this legitimate criticism and correction of the mistake of the child is possible, because, while communicating through language, we make assertions with the help of linguistic conventions linking sentence in appropriate mood with the making of an assertion. The child cannot get away by pleading, 'But you understood, what I wanted to communicate', if he wants to learn the language.

There are two mistakes, which it appears, make one think that there are no conventions linking sentence in appropriate mood with the elocutionary intentions. One mistake is to overplay the contrast between making of an assertion and telling a story, annoying a bore and cracking a joke; for a person may be annoying a bore precisely by making very uncomfortable assertions, while cracking a joke may involve making of an assertion. The activities like annoying a bore, cracking a joke, telling a story should be contrasted with narrating an episode, describing an event, making a report, etc. Then the point will be true that it is not by a convention that we know whether a person is telling a story, narrating an episode or cracking a joke. Making of an assertion must be contrasted with asking a question, expressing a wish, giving a command, etc. Now it will be wrong to say that it is not by linguistic conventions that a person makes an assertion, asks a question, expresses a wish or gives an order, etc. Making of an assertion, asking a question, expressing a wish is like making a will in law. Only by following legal rules that a person succeeds in making a will. If he has not conformed to the rules, he has made no will, even though what he intended to go in his will is quite clear. Similarly, if a person fails to conform to the linguistic convention, he fails to make an assertion, even though the context makes it quite clear as to what he intended to assert. In fact, this is how many a time we wriggle out of an accusation that we have made assertions unbecoming of ourselves. It is not uncommon to hear, 'I made no assertions, I only asked a question,' even though the asking a question in the circumstances is as bad as having made an assertion.

This point leads to the second mistake which encourages the view that it is not by conventions that assertions are made, it is only by exploiting the contingent features of the situation that one makes assertions. The mistake lies not in making a distinction between the making of an assertion and utterance of a sentence which has the *effect* of making an assertion.

To consider an example. In the course of a discussion one says, 'Didn't you go to Calcutta?' where it is quite obvious that the person addressed went to Calcutta; and the hearer gives no response and the discussion proceeds further with both the speaker and hearer understanding clearly that the hearer went to Calcutta. Some linguistic philosophers will analyse the situation in this way. The speaker has made an assertion by uttering a sentence in an interrogative mood. After all, the speaker had no intention to amplify his knowledge by this query, for he knew the answer.

To consider another example. In course of a discussion a person says

with an appropriate intonation: 'You went there.' And the hearer says in response: 'Yes, I went there.' According to those linguistic philosophers, the first speaker has asked a question by uttering a sentence in an indicative mood.

On the basis of this kind of analysis of these examples it becomes fairly obvious that one cannot accept that there are conventions linking sentences in appropriate mood with elocutionary intentions. It is by exploiting the contextual features that one makes assertions—that is all that one will have to say.

But one need not agree with the analysis of these linguistic philosophers, as it has failed to keep language and rhetoric distinct from each other. In the first example, the speaker has asked a question, but the answer being obvious hardly requires an answer. And the asking of the question is having the effect of making an assertion. Why did the speaker not make a straight forward assertion? Probably, the speaker, who knows some rhetoric, thinks that asking a question will have better effect than making a straightforward assertion. This kind of analysis can be given for the second example also. Now language provides conventions for making assertions, asking questions, etc. But language does not provide any conventions as to how to make use of assertions, questions, commands, etc. It will depend on one's rhetorical skills, which varies from person to person, whether one will make a straightforward assertion or ask a question which has the *effect* of making an assertion in the context. There can be no conventions of rhetoric. One exploits the contingent feature of the situation for rhetorical effects. But one must keep language and rhetoric separate, for conflation will help in illuminating neither. I am afraid Davidson's idea of interpretation and his view that it is not by linguistic convention that we succeed in making assertion rest on conflation of language with rhetoric.

Probably, Davidson will say that I have fallen into the trap by confusing the literal meaning of a sentence in an indicative mood with assertion and the literal meaning of a sentence in an interrogative mood with question, etc. But this charge is unfounded. Definitely, the question that I ask by uttering the sentence 'Did you go to Calcutta?' will be different in different contexts (especially when the persons addressed are different) although the literal meaning remains the same. But it is because of the linguistic convention that I succeed in asking the question, whatever the context. And, also, it is because of the literal meaning that a sentence has that we are able to ask a question or make an assertion, etc. by uttering it. And the literal meaning is determined again by convention.

Davidson may reply that I am making a confusion he has warned against. According to him:

> It is easy to confuse two quite different thesis; on the one hand, the (correct) thesis that every utterance of an imperative *labels* itself (truly or falsely) an order, and the thesis that there is a convention that under 'standard' conditions the utterance of an imperative *is* an order. The first thesis does, while the second thesis cannot explain the difference in meaning between an imperative and a declarative sentence a difference which exists quite independently of elocutionary force. The second thesis cannot explain this because it postulates a convention that is in force only under 'standard' conditions. You cannot *use* a convention by breaking it, you can only abuse it. (Davidson 1983: 21-21; 1984: 275).

I am quite clear that it is the second thesis that I am defending. It is not the case that the utterance of a sentence in an indicative mood labels itself as an assertion, truely or falsely, awaiting discovery rather it is the convention that the utterance of a sentence in an indicative mood is an assertion unless *x y z*. The conditions *x y z* are never fully articulated. This convention does not require that to make an assertion one has to have recourse to the contingent feature of the situation other than uttering the sentence in an indicative mood; rather it is to defeat the imputation of an assertion that we need to appeal to the features of the situation, like it is uttered in sleep, etc. This convention of the presumption that a person has made an assertion by uttering a sentence in an indicative mood, unless defeated by *x y z*, is very important for the communication to get off the ground. Suppose, this convention is not there, so that it is always a possibility that the utterance of a sentence in an indicative mood may or may not be an assertion depending on the features of the situation. Now, if there is a sceptic who requires it to be shown that the utterance of the sentence in indicative mood is an assertion or not, how will one convince him? Probably, by showing that the speaker is not sleeping, etc. Suppose, he remains unconvinced, then in exasperation one will say: 'I made an assertion.' But he doubts that too. He requires it to be shown that it is really an assertion. So without the convention of the presumption that the utterance of a sentence in an indicative mood is an assertion, unless *x y z*, communication will be impossible. If one has reasons to doubt whether it is an assertion, the defence that one has made an assertion must be limited to rebuttal of the doubt, and it does not require giving of additional evidence by appealing to features of the situation to show that one has made an assertion. And it is precisely because of the existence of this convention that a liar succeeds in lying. When Davidson says 'there is no convention of sincerity' (Davidson 1983: 17; 1984: 270), he has misunderstood the convention. The convention is to presume the sincerity of the person speaking. But this convention may be violated. A person may lie. Of course, a convention cannot make a person sincere. But this does not mean that there is no convention of presuming sincerity. Probably, in his overjealous attack on conventions in language, Davidson has forgotten that every instance of telling a lie need not be an instance of success in deceiving the audience. A person

tells a lie by violating the convention of presumption of sincerity. But others may know that he has violated the convention. Without this convention, how will a person tells a lie? By convincing that he is telling the truth while, in fact, he is indulging in falsehood, so that every instance of telling a lie is also an instance of success in deceiving? Probably, a rescue operation can be made by making a distinction between an attempt and a successful attempt. The very attempt at convincing others of truth while it is false is a case of telling a lie, so that every instance of telling a lie need not be a success in deceiving. But what does this attempt which amounts to lying consist in other than willfully violating the convention of presumption of sincerity? It is not very clear what the answer can be. In fact, we should not confuse between plain and simple telling a lie, which is wilful violation of the convention of presumption of sincerity and an attempt to make the lie convincing with consequent failure or success.

Here it may be pointed out that there is a tension between my claim, on the one hand, that the distinction between assertion in real life and the same in a story is dependent on the context and the claim, on the other hand, that there is a convention of presumption of sincerity which enables us to make assertions by simply uttering the sentence in an indicative mood. The tension is resolved in the following way. When a person utters a sentence in an indicative mood, there is a presumption that he has made an assertion in real life. But this presumption can be suspended (not to be confused with its violation). The speaker can suspend the presumption by explicitly stating, 'I am telling a story,' which is understood to be an assertion due to presumption and the suspension follows, or by wearing the crown on a stage, etc. But here, again, the presumption of sincerity reappears at another level, i.e. relative to the drama or the story, so that the presumption now forbids the audience to take the utterance as a story within a story or a drama within a drama without reason. No doubt, it is some feature of the context, including what the speaker says, that gives reason to suspend the convention of presumption of sincerity at one level, so that the distinction between an assertion in real life and the same within a story depends on the availability of reasons in the context; but that does not detract from the fact that the convention of presumption of sincerity is at the back of our ability to make an assertion.

In the example given by Davidson, it was the presence of reason in the context that had suspended the presumption of sincerity at one level, which prevented the actor from making an assertion in real life despite his intentions. But we in our day-to-day discourse do not communicate under the suspension of the convention of presumption of sincerity, at the level of reality. Hence Davidson's claim that 'the plight of the actor is always with us' (Davidson 1983: 16, 1984: 270) cannot be accepted.

It may be argued: what Davidson has pointed out is that we are always under the threat of suspension of the convention, due to presence of reason

in the context. I will concede the objection and even say that, thanks to the circumstances, that it is possible to follow any convention at all and not merely this one. But it may be noted that what Davidson is actually arguing is that there is no convention at all. I am arguing only against that claim. It is one thing to say that there is a convention which can be suspended due to feature of the circumstances, and it is another thing to say that there is no convention at all. If one is in doubt regarding the force of this distinction, let him remember the distinction between a legal system that presumes a person innocent till proved guilty, except in certain circumstances, and the legal system that has no such convention.

The moral of this *tour de force* is that Davidson's arguments have failed in showing that there is no convention linking the utterance of a sentence in appropriate mood with elocutionary intentions, rather there are arguments to show that such conventions are essential for communication through language.

III

Now I shall take up for criticism the refutation by Davidson of the view that it is not by convention that we assign the meaning to words or sentences. For the convention to operate, it is required that there be at least two people involved since convention depends on a mutually understood practice. Now Davidson raises the important question: 'What exactly is the necessary convention?' According to him:

> It cannot be that speaker and hearer mean the same thing by uttering the same sentence. For such conformity, while perhaps fairly common, is not necessary to communication. Each speaker may speak his different language, and this will not hinder communication as long as each hearer understands the one who speaks. (Davidson 1983: 21-22: 1984: 276)

Hence 'Communication does not demand, then, that speaker and hearer mean the same thing by the same words; yet convention requires conformity on the part of at least two people.' (Davidson 1983: 22; 1984: 277). Hence the refutation of the third type of theories, according to Davidson.

Here I would draw attention to the fact that Davidson has formulated his argument in terms of 'communication' and not 'communication through language'. And, as I shall presently show, the case of two speakers speaking different languages can be a case of 'communication' without being a case of 'communication through language'. Persuasiveness of Davidson's argument arises only because it is about 'communication' and not about 'communication through language'.

In his argument Donald Davidson says about the necessary convention:

'It cannot be that speaker and hearer mean the same thing by uttering the same sentences. For such conformity, while perhaps fairly common, is not necessary to communication' (Davidson 1983:21-22; 1984 : 276). No one can dispute this. Even an infant communicates but we can hardly attribute convention to him. But the question is whether convention is necessary for 'communication through language'. It will require fairly well-reasoned argument to show that convention is not necessary for 'communication through language'. Let us see what reason Davidson has to give for this. Davidson's supporting argument is: 'Each speaker may speak his different language, and this will not hinder communication as long as each hearer understands the one who speaks' (Davidson 1983: 22; 1984: 276).

There can be two cases of each of two different speakers speaking his different languages. Let me make this point clear by examples. The first case is a German and a Britisher, proficient in both German and English. Yet (maybe because of national pride) each is speaking his mother tongue in trying to communicate to each other. In the second case, the German and the Britisher know only their respective mother tongues and yet are trying to communicate to each other through their mother tongues only; and, for all we know, they may be making themselves understood to each other. Now, which of these two cases Davidson has in mind? It surely cannot be the first case as shared convention is necessarily involved in this. Here there are two sets of conventions. One set of conventions governing the meaning of words in the mouth of the German and the other set governing the meaning of words in the mouth of the Britisher. Had they been speaking only one language, there would have been only one set of conventions assigning the same meaning to the same word in both the speakers' mouth. Hence the first case, which is a case of communication through language, cannot be the case which Davidson has in mind as conventions are necessarily involved here. So it is surely the second case which Davidson has in mind where they are communicating without sharing the convention. But, unfortunately, in the second case, communication is not taking place 'through language'; if at all any communication takes place, it is despite language. Here, for each hearer, the speaker's utterance is just another clue like the movement of the hand or eye, etc. to guess what he is intending to communicate. So we can say Davidson has failed to make a case in favour of his contention that shared convention governing meaning is not necessary for communication through language.

What Davidson has done in the argument is that he has confused the 'communication despite language' with 'communication through language'. In fact, the model he has for ordinary communication through language is not that of 'communication through language' as I have described but 'communication despite language'. According to him: 'Different speakers have different stocks of proper names, different vocabularies, and attach somewhat different meanings to words.' (Davidson 1983: 1984: 277). Hence

no doubt he fails to see that convention is essentially involved in language. In my view, Davidson is operating with a wrong model of communication through language.

IV

I concede that in argument against Davidson I have taken the case of where persons share the conventions governing meaning of words as the case of 'communication through language' by definition and that my argument is not properly developed. In the following pages I intend to develop it in support of my case.

The theory of interpretation, as developed by Davidson, draws our attention to the fact that a hearer has to interprete the meanings of the utterance of the speaker; and that sometime the hearer goes wrong in his interpretation and so he revises the interpretation. But, unfortunately, he overplays this fact. We do not always revise our interpretation when charged with misunderstanding, rather we sometimes justifiably criticize the speaker for not using words with their meanings. We do not merely correct the speaker of syntactical errors but also of semantical errors. This type of criticism and correction is common place. We do it all the time to our students. Parents do it to their children. And, occasionally, it takes place the other way round also. The fact that a hearer can reasonably criticize the semantics of the speaker is due only to the presence of semantic conventions. It is the existence of semantic conventions which gives a hearer the reason to criticize the semantics of the speaker, if it deviates from that. Unfortunately, Davidson's idea of interpretation leaves the possibility of justifiably criticizing the semantics of the speaker unaccounted for. This he does because he is developing, as I have already shown, the theory of 'communication despite language'. In 'communication despite language', the possibility of justifiable criticism of the semantics of the speaker by the hearer is absent as the hearer does not know the speaker's language. He is merely content with interpreting the utterance of the speaker and revising it in the face of failure, but he cannot detect any semantic deviation as he does not know the speaker's language. Hence there is no question of shared semantic convention playing any role in interpretation going on in the context of 'communication despite language'. As I have already shown, Davidson is operating with the model of 'communication despite language' as a model of communication through language; no doubt, he cannot accept involvement of shared semantic convention in language. If any one is inclined to doubt the feature of the language I am referring to, let him remember the dictum: 'You must say what you mean, and you must mean what you say.'

It may be argued that I am being unfair to Davidson since he has taken care of the occurrence of mistakes I am talking about. For, in one of his essays, he writes: 'No simple theory can put a speaker and interpreter in

perfect argeement and so a workable theory must from time to time assume error on the part of one or the other' (Davidson 1975:21). Even if we agree with Davidson, what he says amounts to: the failure of agreement triggers scrutiny for mistakes or errors. But the crucial question is: what exactly is it a mistake of or error of? If Davidson brings in rules, norms or conventions to account for what the mistake is of or who has made the mistake, then it is a serious retreat from the claim that conventions are not essential in language. If he does not bring in conventions, then it is not clear what the mistake is of and what must be modified, the interpretation of the hearer or the utterance of the speaker, in order to rectify the error? Can we rely on his methodological precept that a good theory of interpretation maximises agreement?' (Davidson 1975: 21). Maybe we can. But this is not what happens when we correct each other's mistake. It will be a very strange argument to me, if someone were to say: 'Sir, you are making a mistake in interpreting "linguistic error" as a "failure to conform to a linguistic convention," for given that interpretation we have failed in optimizing our agreement of interpretation'. What I expect him to tell me is what the linguistic convention governing its use is. Of course, there may be disagreement on what the convention is. To look for its meaning or convention for its use, we may have to look into *some authoritative source* say, a dictionary or a thesaurus. Of course, the question remains how the compilers of a thesaurus or a dictionary incorporate these conventions, and the answer may be that probably by applying the test of optimizing the agreement on interpretation. This is not an agreement of two persons that they optimize but of the *entire community of the competent speakers of a language*. Any understanding of our linguistic competence will remain defective, if it fails to accord central place to internalization of linguistic convention and *authoritative* settlement of the question of meaning in the context of communication by language.[3] Here, if I may exploit an analogy, I would like to say that the difference between what I am saying and what Davidson is saying about language is similar to the difference between what a rule utilitarian is saying about morality and an act utilitarian is saying who takes rules merely as rules of thumb. In my view, Davidson has not kept the situation of communication or interpretation as distinct from the situation of discovering for the purposes of the lexicon what the community's convention regarding the meaning of a term is. The test of optimization of agreement may be suitable for latter task but is definitely not suitable for the former task. Why has Davidson failed to take note of this feature of language? It appears that there are two reasons for it. First, the idea of convention that Davidson relies upon is at the root of the confusion. Secondly, the overplaying of the contrast between what the word or the sentence means and what the speaker means by the word or the sentence in a particular occasion of its use has led to the wrong view of language.

To explain what convention means Davidson has taken recourse to David

Lewis's analysis of the convention. According to David Lewis, a convention is a regularity R which has the following properties:

(1) Everyone involved conforms to R;
(2) Everyone believes that others also conform;
(3) The belief that others conform to R gives all involved a good reason to conform to R;
(4) All concerned prefer that there should be conformity to R;
(5) R is not the only possible regularity meeting the last two conditions; and finally
(6) Everyone involved knows (1)-(5) and knows that everyone else knows (1)-(5), etc (Davidson 1983: 21; 1984: 276).

No doubt, Davidson writes: 'Tyler Burger has raised reasonable doubts about part of the last condition...and I have misgivings myself.' But, not being interested in the details of the analysis of convention, he lets it pass 'that something like Lewis's six conditions does hold roughly for what we call speakers of the same language' (Davidson 1983: 21; 1984: 276). But, unfortunately, this analysis of convention is fundamentally mistaken; and not merely suffers from some 'details of the analysis' as Davidson thinks, which ultimately has prevented him from seeing an important feature of the working of language. The analysis of convention, relied upon by Davidson, simply leaves out one very fundamental aspect of convention which it shares with rules and norms. It is their normativity. By normativity of a rule I mean the social recognition that it is a mistake (or a crime if the rule is very vital for society) not to obey the rule or not to conform to the regularity.[4] With the recognition that deviation from the regularity is a mistake (or a crime) there is associated the right of others to judge and demand conformity when anyone deviates at the pain of censure (or punishment). In one extreme case, in the context of linguistic rules, the censure may be very polite, 'Well you are not speaking our language', and in another extreme case, in the case of a child if the deviation is frequent, it may invite spanking from a concerned father. This feature of convention is unaccounted for in David Lewis's analysis of convention. One cannot say that this feature has been taken care of by conditions (3) and (4) of the analysis; for even if a person takes it as a good reason to conform to a regularity R because others do the same, it does not make his failure to conform to it a mistake, nor does it give others a license or right to judge if he has deviated or to demand his conformity. Similarly, even if everyone prefers that all should conform to the regularity, that does not make a person's failure to conform to it a mistake; nor does it give others a right to judge and to demand conformity. One cannot generate this right to judge and to demand conformity from David Lewis's analysis of convention which is so vital a feature of convention. It is the failure to appreciate this aspect of convention which has also led

Davidson not to notice this in the operation of language and hence not to appreciate the importance of the involvement of convention in language.

The second mistake is to overplay the distinction between what the word means and what the speaker means by uttering the word in a context. A speaker is speaking a language or communicating through language when the speaker means the same thing by uttering the word in a context as what the word means conventionally, so that normal communication takes place through language by sharing semantic conventions governing the meaning of terms. Occasionally, a speaker may mean by uttering a word in a context something different from what the word means, and he may succeed in conveying his meaning, i.e. the hearer may get what speaker wants to communicate. But one should not learn the lesson from this success that the right model of convention through language is the model which relies on the features of the situation for successful communication and not on shared conventions. Rather, it is a deviation, which is parasitic on the background of communication through the shared semantic convention governing the meaning of words. Once we do away with the entire background of communication through shared convention, it will be impossible to communicate through language.

So, we must conclude conventions are essential for language. Hence Davidson's contention that language is a condition for having conventions and not the other way round is wrong. But if he means that communication is a condition for having convention, then he is right. But the communication which is the condition for having conventions cannot be linguistic communication or communication through language. It must be some kind of communication which is independent of language and the reality of this sort of communication need not be doubted, otherwise teaching of language to a child will be impossible.

This brings us to the last point which I would like to press before closing. Davidson writes:

> In playing tarot, convention is essential, in eating it is not. In explaining what it is to play tarot we could not leave out of account the rules that define the game, in explaining what it is to eat no mention of rules or conventions needs to be made.

And then he asks: 'What is the case with speech? Are conventions mere conveniences or social flourishes or are they necessary to the existence of communication by language?' (Davidson 1983: 13; 1984). Now attempting to answer this question, it appears that Davidson got impressed by analogy between communication and eating. There can be communication without convention, as there can be eating without convention. Again, communication through language, which is communication with conventions, is like eating with conventions. Conventions are social flourishes in eating,

so probably Davidson concludes linguistic conventions are social flourishes in communication. But the analogy is false. The conventions in eating create no new capacities of eating. For we could have eaten without convention everything that we can eat with convention. But it is not so with communication. We cannot communicate without language everything that we can communicate with language. Conventional eating is simply the old activity regulated by norms, but communication through language is not the same old activity of communication merely regulated by conventions. It is a new activity. Language creates new capacities of communication that we simply lack without language. So this linguistic competence, i.e. competence to communicate through language cannot be described without bringing in rules. Communication through language is not like eating with convention but is like playing chess or tarot.

Notes

1. The sentence in Davidson 1984: 279-80 reads: 'In conclusion, then, I want to urge that linguistic communication does not require, though it very often makes use of, rule-governed repetition; and in that case convention does not help explain what is basic to linguistic communication; though it may describe a usual, though contingent feature.'
2. The only other philosopher who seems to accept this is Arindam Chakravarti. He writes at one place: 'We have already rejected the non-referential, *non-assertionist* views of fictive discourse' (Chakravarti 1983: 146). The emphasis has been added by the present author.
3. Authoritative settlement of meaning in the context of speaking a language need not always be done by appealing to a lexicon of the language as there may not be any lexicon in existence. In that case, the appeal is to the competent speaker of the language. There is no circularity in explaining linguistic competence by referring to competent speaker of the language. The idea is that when I am in doubt regarding the meaning of a word you (a competent speaker of the language) are an authority on it.
4. For normativity of linguistic rules see Kripke 1981 and Prasad 1983.

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Occasion, forbearance and not-doing *simpliciter**

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I

The Logic of Action forms an integral part of the deontic logic which Prof. von Wright has developed since 1963. The concept of a human *act* (to do;/ doing) and the concept of *forbearance* are the concepts that are basic to this logic. In a larger context, both these are objects of moral praise or blame; but, apart from their being so, both these require a great deal of conceptual analysis and a certain amount of reconstruction so as to figure in the logic of action that one may develop. von Wright's *Norm and Action* (1963) and *Practical Reason* (1983) are brilliant attempts in this regard. In additoin to giving the analysis of the concept of a human act, both these texts deal with the notion of forbearance and that of omission (of action) respectively, and try to reveal certain logical features; the basis on which certain formal relations between acts (doing), on the one hand, and forbearance/omission, on the other, are explicated in terms of their results, required abilities, and other related notions. von Wright also relates these notions of an act (doing) and forbearance to those of obligations, prohibitions and permissions. In what follows, I wish to explicate von Wright's understanding of the notion of forbearance, and, in doing so, state some of the difficulties in understanding his formulation.[1]

II
Forbearance and Not-doing Simpliciter

The account of forbearance which von Wright gives is primarily in the context of what he calls *elementary changes*. His notion of elementary change, however, includes *not-change* as well. These elementary changes are *results* of elementary acts. And the correlatives of these elementary acts are *forbearances*. As elementary acts effect certain changes, so also do forbearances. And the extent to which a certain change is effected through (the act of) forbearance (e.g. to forbear to close the window results in the window's remaining open), to that extent forbearance is not just the same as not-doing something

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simpliciter. Not-doing something simpliciter does not 'effect' any change 'at will'. In this sense, to forbear doing something is different from not-doing something simpliciter. von Wright's definition of forbearance seeks to maintain this distinction between *f* (orbearing) and *not d* (oing).

It is clear that to refer to (someone's) not-doing something simpliciter is not to name any act. It is to offer a description to the effect that the agent, on the given occasion, is *not*-doing that something. No further account of this not-doing can be given. Forbearance (or omission), on the other hand, is an act which is related to certain results. This being so, a case of forbearance or a case of omission '...though a non-action—and yet it is, at the same time, a "mode of action or of conduct" ' (von Wright, 1983 : 109). However, a case of not-doing something simpliciter and a case of forbearance are not distinguishable in terms of their outward behavioural manifestations. This point leads to the following questions:

(a) Is forbearance (or omission) different from not-doing something simpliciter? If it is so, how exactly can one explain this difference?
(b) Whether the relation between doing and forbearing (omission of action) is simply the relation between something and its *negation*

von Wright himself asks the latter in *Practical Reason* (von Wright, 1983: 104), while the former is implicitly presupposed in *Norm and Action*.

That forbearance is different from not-doing simpliciter has generally been accepted on some such grounds as following:

(*i*) Not-doing something simpliciter is neither praiseworthy nor blameworthy nor is it 'imputed' to an agent in the sense of holding him responsible for it. On the other hand, an act of forbearance (omission) is either praiseworthy or blameworthy. Forbearances or omissions are 'imputed' to agents, and, depending upon the circumstances, their agents are sometimes held responsible for them. It is clear that a logic of action cannot have two concepts, one of which is subjected to moral norms but the other is not. For example, take the action, 'doing *p*'. In certain circumstances this action cannot be attributed to a certain agent, and, therefore, 'not-doing *p*' can be attributed to him. But in these very circumstances 'forbearing to do *p*' may not be imputed to him. Now, in situations in which 'forbearing to do *p*' can be attributed to him he will be held morally responsible for omitting to act. On the other hand, if merely 'not-doing *p*' is attributed to the agent, moral responsibility is not attributed to him. Therefore, the notions of not-doing something and forbearing to do something need to be distinguished. Thus, the logic of action in which 'doing' is subjected to norms (i.e. norms which are obligations, prohibitions and permissions) cannot have not-doing something simpliciter as its correlative. Thus, not-doing something simpliciter falls outside the scope of moral norms (i.e. norms which are obligations, prohibitions and permissions).

(*ii*) A case of not-doing something simpliciter is a case of mere absence of *doing it*. But forbearance (omission) is not thought to be so. Forbearance is an act whereas not-doing something simpliciter is not an act. One might as well say that doing and forbearance are 'active' whereas not-doing something simpliciter is 'passive'.

(*iii*) We say that an agent *a*, on a certain occasion *o*, does a certain thing. For example, *a* on *o* opens the door. What he *achieves* thereby is the opening of the door. In other words, he achieves a certain result. Thus, his act of opening the door may be viewed under the aspect of *achievement*. Similarly, when *a* on *o* opens the door, he actively engages himself in the bodily activity of the opening of the door. Thus, his activity of opening the door can be viewed under the aspect of *process*. Thus, these 'two aspects are related, loosely, to the ideas of *making* and *doing* respectively' (von Wright, 1983 : 107). Not-doing something simpliciter on the other hand, cannot be related to the aspect of *achievement*. For example, if the door is closed and the agent does not open it. If his *not* opening the door is a case of not doing simpliciter, then he cannot be said to *keep* the door closed. Thus, that the door remains closed is not the achievement on the part of the agent. Similarly, if the agent's not opening the door when it is closed is a case of not doing simpliciter, it cannot be related to the 'aspect of process' (i.e. the agent does not engage himself in the bodily activity of keep*ing* the door closed). But what should we say about an act of forbearance or that of omission in this regard? That is, can these notions be viewed under both these aspects of achievement and of process? Viewing the notion of forbearance under the aspect of achievement presents no difficulty. For example, when *a* on *o* forbears himself from opening the door, he achieves thereby the keeping of the door closed (i.e. he *keeps* the door closed). That the door's remaining closed can be attributed to agent's forbearance to open it is an achievement on the part of the agent. Thus, whereas an act of forbearance can be viewed from the aspect of achievement, not-doing simpliciter cannot be viewed from the aspect of achievement.

If by 'aspect of process' we mean the process of doing something, then we are obviously referring to the agent's bodily activity which is involved in the performance of the act. But is there any bodily activity that is involved in the act of forbearance? The answer to this question seems to be in the negative. In order to forbear opening the door, an agent is not required to engage himself in any specific bodily activity. One can say, therefore, that *doing* can be viewed from both these aspects; not-doing simpliciter cannot be viewed from any of these aspects, whereas forbearance can be viewed only from the aspect of achievement. However, I shall not go into the details of this issue at this point.

Forbearance: In *Norm and Action* von Wright offers the following definition of forbearance: 'An agent, on a given occasion forbears the doing of a certain thing if, and only if, he *can do* this thing, but *does* in fact *not do* it' (von Wright, 1963: 45). This definition is in terms of (*i*) action, (*ii*) change

and (*iii*) ability. In support of this definition he gives the following example:

> If...a certain window is *closed* on a certain occasion, one *does not* close it on that occasion—but neither does one *forbear* closing it then. Furthermore, things which are beyond human capacity to do (e.g. to change the weather), one does not do—but neither does one forbear doing them (von Wright, 1963: 45).

Thus, using von Wright's symbolism, $f(\text{-}pTp)$ is not the same as $\text{-}d(\text{-}pTp)$. Similarly, 'to forbear' is not the same as the 'doing of not-changes'. Thus, f is not the same as $d(\text{-}pT\text{-}p)$.

Since 'not every occasion (or a pair of successive occasions) is an occasion on which just any individual event may happen or act be done', *two* specific conditions have been mentioned (von Wright, 1963: 37, 43) with reference to the example of our agent's (act of) forbearance to open the door. They are (*i*) that the door must be closed (thus, door's being closed is an occasion providing *opportunity*: to forbear to open it) and (*ii*) it must not get open 'of itself' (i.e. through the breeze, etc. that is, the *result* of forbearance must not take place independently of the act of forbearance).

Omission of Action: In *Practical Reason* von Wright offers two definitions of omission of action in terms of (*i*) ability; (*ii*) not-doing and (*iii*) opportunity. von Wright says: 'Omission could be defined in terms of not-doing and the notions of *ability* ("can do") and *opportunity*.' On this view, an agent *a* can be correctly said to have omitted to do a certain thing on an occasion *o* if he could have done this thing but did not do it. von Wright calls the notion of omission thus defined as 'omission in the widest sense' (von Wright, 1983: 109). However, this definition of omission does not seem to be substantially different from that of forbearance[2] cited above.

Omission in the widest sense has also been understood as: '...the not doing of an action by an agent on an occasion when there is an opportunity (*simpliciter*) for performing this action.' Thus, '*a* on *o* omits, in this widest sense, to produce the state that *p* if *o* affords an opportunity for producing this state but *a* does not produce it' (von Wright, 1983: 171).

There is no mention of 'ability' in this definition, and in this regard von Wright says that this is more wide a definition than the earlier ones cited above.

A Few Observations on These Definitions: The notion of forbearance as defined above has been understood in the 'weakest/widest' sense of the term. This is obvious, because the *df-calculus* which von Wright develops in his *Norm and Action* needs *that* concept of forbearance whose meaning is common to all the various types (or degrees) of forbearance which are ordinarily recognized. Thus, *a* may desist from striking a person even when severely provoked, or may overcome the temptation to eat a tasty dish which is forbidden, because he is observing a fast. Both are acts of forbearance (omission), but they may be said to illustrate the forbearance of different kinds, because the former involves resisting and checking a strong natural impulse while the latter involves overcoming a temptation. Also, I may not shut a window even when a gust of wind and rain comes in through it, because I am too lazy to leave my cozy chair. This would be yet another kind of forbearance. Such a classification of acts of forbearance is obviously based on moral considerations. Acts of forbearance would be regarded as belonging to different kinds, because they are judged to be laudable or blameworthy for being cases of exercise (or lack of exercise) of different virtues like patience, temperance, concern for the well-being of others, and so on. Also, two acts of forbearance may belong to the same kind, and yet exemplify different degrees of forbearance. For instance, they may belong to the same kind as acts involving overcoming temptation. But the temptations may differ in strength, and so one act may count as exemplifying a greater degree of forbearance than another. Now, what these definitions of forbearance or omission, as given by von Wright, assert is that on some occasion *o* there is a non-performance of some (specific) action *d*. This seems to be the minimum and, therefore, at least the part of the common meaning of the various types (or degrees) of forbearance.

To the extent it is possible for us to say that the definition of forbearance, as given by von Wright, represents a meaning which is at least a part of the meaning of various types or degrees of forbearance, one may draw certain similarities and dissimilarities between these definitions and the notion of *material implication* as it is used in propositional logic.

(1) A notion of material implication as used by logicians is a special notion, and is not to be confused with other more usual instances of implication. Similarly, the notion of forbearance as defined by von Wright is to be treated as a special notion, and is not to be confused with other, more usual instances of forbearance. For example, the act of forbearance, in the ordinary sense of the term, involves the awareness of the opportunity, the temptation or provocation to do something, but a decision not to do it, etc. As we have seen above, various examples in which there is a mention of these can be cited, and those would be more usual and familiar instances of forbearance. Now, this minimal notion of forbearance, which is supposed to be common to various kinds and degrees of forbearance, does not seem to be free from difficulties.

For example, imagine a person *A*, who is morally upright and known to all those who are acquainted with him to be morally upright. Suppose, he is sitting in his friend's library deeply engrossed in reading a book, and on a nearby table a wad of currency notes is lying all the while he is so engaged. He, of course, notices that it is there and gives it no further thought. We can correctly say, in accordance with von Wright's sense of 'forbear', that he forbore to steal the money; for he could have stolen it and does, in fact, not steal it. But if the friend remarks that *A* forbore to steal the money, *A* will

either treat it as a joke or take it as an insult. If the remark was not intended as a joke, *A*'s retort would be that there was no question of his doing so and the remark was uncalled for; there was no occasion for the remark. One may say, even at the cost of hurting *A*'s feelings, that as a matter of fact he did not steal the money. Even *A* would have to accept it as a true statement, though he would probably insist that it would be gratuitous except as an illustration of how the expression 'true statement' is used. But to say seriously that *A* forebore to steal the money implies that there was a *real* possibility of his stealing it; and this real possibility cannot be equated with the barely logical possibility which consisted in some money which did not belong to *A* being accessible to him and his possession of the ability to put it in his pocket and run away. The real possibility has to consist in *A*'s *wanting* to steal it.

In such a situation, is *A*'s not stealing the money a case of not-doing simpliciter or one of forbearing? *A* would rather say that it is the former, and as we ordinarily think and judge about such matters we would agree with him. von Wright needs to have a weak sense of forbearing, because there have to be cases of actions not taking place so that prohibitions are obeyed, and these cases must be cases of *doing* rather than absence of doing. If a certain action is not done in observance of a certain prohibition, then it is more than simply an action which has not taken place. The not-doing of this action is a case of forbearance. We can rightly call it forbearance, only if there is a *real* possibility of the action being done. Now, this real possibility cannot be equated with the ability of the agent to do it. It is more than that. von Wright is surely right in recognizing that there are degrees of forbearance. At one extreme there would be a man who has a strong temptation to steal but overcomes it; decides not to steal. At the other is a man who has so thoroughly internalized the prohibition not to steal that he feels no temptation at all. But this means that he has taken a general decision to honour the prohibition in every case. Thus, forbearance would seem to include the decision not to do the relevant act. Forbearance in the weak sense, as defined by von Wright, is hardly distinguishable from not-doing simpliciter.

Imagine another man *B* in a similar situation who *wants* to steal the money. He is *about to* get up from his seat in order to do so when the host walks in and removes the money. *B* logically cannot any more forbear to steal it. But before the money was removed, did or did not *B* forbear to steal it? According to the weak definition of forbearance, one has to say that *B* forbore to steal it. For he could have stolen it but, in fact, did not steal it. And if any kind of credit is to be given for forbearing to steal, it would have to be given to him. But one would like to say that no credit is due to *B* in this situation. Certainly, *B* did not do any act of stealing on this occasion, and so does not deserve the punishment which is provided for those who break the law which prohibits stealing. But also *B*'s conduct on the occasion cannot be regarded as an instance of forbearing to steal which deserves at least moral encomium. One can at most say that fortunately for *B* his conduct on this occasion is to

be categorized as a case of not-doing. This is so from the legal point of view. But from the moral point of view *B*'s conduct was as bad as it would have been if he had done the act of stealing.

It, thus, appears to me that, given the weak definition of forbearance, the line between not-doing something simpliciter and forbearing to do it is difficult to draw, if forbearing to do something is to be the subject of moral assessment. From the point of view of legal assessment, the distinction between not-doing something and forbearing to do it need not be recognized. If a person is charged with stealing something and if the evidence establishes that he could not have stolen it, then the verdict must be that he did not steal it and he must be discharged. This is a case of his not-doing a certain action; not of forbearing to do it. On the other hand, if we can correctly say that he forbore to steal it as he had the opportunity and ability to do so but did not actually steal, then also he must be pronounced to be not guilty of stealing and discharged. It is only from the moral point of view that the distinction between not doing simpliciter and forbearing requires to be drawn. But the weak sense of forbearance does not enable us to mark the distinction in a manner consistent with the moral point of view, because it excludes specifically moral notions like temptation, adoption of a principle, decision, etc.

(2) However, the notion of material implication and that of forbearance, as defined above, operate differently from each other. The difference can be stated in the following way: the notion of material implication does not assert any (real) connection between antecedent and consequent. All that it asserts is that, as a *matter of fact*, it is not the case that the antecedent is true when the consequent is false. On the other hand, a definition of forbearance, as cited above or any of its equivalent version, even in its weakest sense, has to assert a real connection between an occasion *o* and the non-performance of some (specific) action on that occasion. In this sense, the definition of forbearance is unlike the definition of material implication. In the case of the definition of the material implication, the relation between an antecedent and the consequent is *external*. But in the case of forbearance (i.e. a case such that that there is an occasion and that there is a non-performance of a specific action on that occasion), the relation between occasion and the non-performance of a specific action on that occasion is *internal* in von Wright's calculus. This is so, because, according to his calculus, an agent cannot forbear to do a certain thing *unless* there is an occasion constituting opportunity for an agent to forbear doing that thing. It is this sort of 'tie' between occasion and the non-performance that makes a mere non-performance (not-doing simpliciter) a case of forbearance. But now to the extent the definition of forbearance asserts some real connection between an occasion and the non-performance of some specific action on that occasion, the notion of 'occasion' becomes an integral part of the meaning of the concept of forbearance. But now the ques-

tion is: what is an occasion and what is an opportunity? This we shall consider in the following section.

III

Occasion and Opportunity

All the three definitions cited above refer to *occasion* and *opportunity*, and these notions are important to the definition of forbearance which von Wright gives. But what is an occasion and what is an opportunity? According to von Wright, an occasion is 'the spatio-temporal location, the When and the Where of the performance of an action' (von Wright, 1983: 170; 1963: 23). Such an occasion has a duration of which one can distinguish between the initial state and the end state. He, however, emphasizes that 'throughout this study we pay attention only to the temporal component of occasions' (von Wright, 1983:165).

> Opportunity [according to von Wright] is a condition which has to be satisfied in order that it is possible to perform the action on a given occasion and it is in this sense, not every occasion is an occasion on which just any individual event may happen or act be done. For example, it is not possible to open a window on a given occasion unless the window is then closed and does not open 'of itself', i.e., independently of the interference of an agent with the prevailing state of affairs (von Wright, 1983: 170).

Occasion and opportunity, thus understood, raise several issues, some of which von Wright himself has dealt with, e.g.:

(a) Can one perform more than one action on one and the same occasion? Answer to this question depends upon how one is using the notion of occasion. Clearly, the sentence *'a* on *o* does *p'* does not necessarily mean 'the action performed by *a* on *o'*. This is so, because it is logically possible to perform more than one action on one and the same occasion. Considering this, von Wright suggests that one can stipulate that 'the occasion must be restricted to the time-span of one single action' (von Wright, 1983: 112)

(b) The presence of an agent on the occasion which provides an opportunity is also an important consideration when we consider omissions. If an agent is not present on the occasion when there is an opportunity to do a certain thing, he cannot be said to have omitted doing that thing. The act of forbearance cannot be performed in *absentia*. However, as von Wright points out, there could be cases in which an agent, because of having certain legal or moral commitments, ought to have been present on *that* occasion; then his absence leading to the non-performance of a specific action would become blameworthy.

Consideration of some such issues help one to understand the notions of occasion and opportunity in some further details. However, one can still ask the question: what makes (a particular) occasion an occasion? To say that a certain window is open is an occasion which provides an opportunity to close it/forbear closing it is to say that there is a possibility that an agent may close it/forbear closing it. That one cannot close a window which is already closed is trivial.A window's being open is, in this sense, a condition for an agent's action to close it. But 'window's being open' *per se* cannot be regarded as an *occasion* to close it/forbear closing it. It only describes a feature of a situation leading to (but not in a causal sense) a certain possibility. This is the point which I was hinting at earlier when I took the example of *A* who notices the wad of currency notes. As a matter of fact, there are a number of other factors which make an occasion (i.e. 'spatio-temporal location' in von Wright's sense) an occasion (in the ordinary sense of the term). For instance, there would be an occasion in the ordinary sense to close the window when there is a noise outside the room which is becoming a nuisance. Similarly, if the temperature in the room is sinking and if one cannot bear the cold, an occasion will present itself for closing it. In the context of the first occasion, it will be meaningful to say that someone forbore to close the window (despite the fact that there is quite a disturbing noise outside) because of his curiosity to know what is happening outside. Similarly, one may say that, in spite of the fact that the temperature in the room was sinking, someone forbore to close the door, because he wanted fresh air to come in or because he was lazy. Any one of these, in the given context, would make a mere specific spatio-temporal location an *occasion* in the ordinary sense.

In view of this, one may put the matter as: the door's being open is necessary but not a sufficient condition to convert the *situation* (of the door's being open) into an *occasion* (to close the door). An occasion, one might say, has a deontic status, whereas a situation by itself has no such deontic status. This is so, because the notion of occasion is internally related to the notion of act/forbearance, and these have deontic status. Occasion does not exist naturally. It is always an occasion *to reach a goal*. A situation, on the other hand, is merely a spatio-temporal locus of possible action, and by itself has no deontic status. In other words, the distinction between a situation and an occasion is a categorial distinction. Action and its 'correlate' forbearance/omission can be considered deontically with reference to an occasion and not with reference to a situation. For giving an adquate description of an occasion as distinguished from a situation; one would have to refer to all the features of it which are relevant to (*i*) the purposes of an agent, (*ii*) deontic norms (such as obligation, etc.) which have a bearing on these purposes, and the possible actions (i.e. actions being obligatory, forbidden or permitted) they would stimulate.[3] von Wright's example of doing/forbearing with regard to opening of the door when it is closed fails to show how the door's being closed is an occasion and not merely a situation. For no reference is made

to any reason, or intention, or decision, or inclination or temptation regarding a possible action. Bereft of such features, an occasion collapses into a situation.

We may note that von Wright is using the term 'occasion' in its weak/wide sense. But, if it is taken in that sense, it does not enable one to distinguish between a case of forbearance and that of not-doing *simpliciter*. Occasion, understood as a 'spatio-temporal location', would be available both to not-doing and forbearance. That is, both not-doing something and forbearance have the common property of being datable; both of them are duration-occupants. What needs to be said is the respect in which forbearance, in addition to being duration-occupant, is different from not-doing *simpliciter*. This cannot be said consistently as regards the notion of occasion which von Wright is using in his definition of forbearance, for his definition leaves no scope for such references. Alternatively, if one takes the notion of occasion in its ordinary sense and include it in the definition of forbearance, then such a definition of forbearance cannot remain weak. Occasion, in its ordinary sense, includes many things which von Wright's definition excludes.

IV

What I have tried to argue so far is:

(*i*) Although von Wright wants to retain the distinction between not-doing something simpliciter and the act of forbearance, the definition of forbearance which he offers does not clearly bring out this distinction. The questions that we have raised are: is forbearance different from not-doing something simpliciter? And if so, how exactly can one explain this difference? Now, von Wright insists on answering the first question in the affirmative. So the difference between forbearance and not-doing something simpliciter will have to be identified. And, as we have seen, this difference between the two has to be understood in terms of those features of situations which do not figure in von Wright's definition.

(*ii*) The minimum that all the three definitions of forbearance/omission which von Wright offers raise the issue of the relation (connection) between occasion and a non-performance of some specific action on that occasion. If the notion of forbearance is defined in such a way that it is not necessary to assert any connection between an occasion and a non-performance of some specific action (on that occasion), then one would hardly be talking about the act of forbearance. On the other hand, if the definition of forbearance has to assert a (real) connection between occasion and a non-performance (of a specific action) on that occasion, then the understanding of the notion of occasion becomes crucial for the understanding of what forbearance is. Now, a connection cannot be established between occasion and a non-performance (of a specific action) unless one uses the term occasion in the strong sense of

the term. But, in that case, its occurrence in the definition of forbearance, which is supposed to be weak/wide, would create an internal tension.

(*iii*) If one takes the notion of forbearance in the weak sense as von Wright suggests, one cannot attach the moral praise or blame to it. On the other hand, if one wants to attach such a moral praise/blame to the act of forbearance and thus treat it a deontic concept, one has to define it in a strong sense. Thus, the definition of forbearance as given by Professor von Wright generates what may be called the *paradox of forbearance*.

Notes

1. Discussions with Prof. K.J. Shah, Prof. M.P. Rege and Dr. Pradeep Gokhale have helped me in stating my position as clearly as possible. My thanks are due to them. I am indebted to Prof. M.P. Rege for reading the earlier draft with patience and care and making valuable suggestions.

2. Whether omissions are identical with forbearances is a different question, and I have not attempted to discuss it here. But it is evident that to forbear to do a certain thing is also to omit doing that thing. But the converse does not hold. From omission to do a certain thing it does not follow that an agent is also forbearing himself from doing that thing.

3. Whether or not 'occasion' can be defined *both* in terms of (i) the purposes of an agent and (ii) deontic norms seems to be an open question. Prof. Renate Bartsch (Amsterdam) suggests to me that while defining 'occasion', reference to a norm (i.e. obligation, etc.) does not seem to be necessary, though it can *sometimes* be a purpose of the agent to obey (or disobey) a deontic norm. I am grateful to Renate Bartsch for drawing my attention to this point.

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An Indian philosophy of universal contingency: Nāgārjuna's school

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THE NORMAL EXPERIENCE AND THE PHILOSOPHICAL STUDY OF THE EMPIRICAL REALITY

The ordinary experience reveals to us a reality composed of beings and things which present themselves as existing *in se et per se* as compact, continuous and unitarian, as permanent and as real, i.e. as being such as we perceive them.

The *Mādhyamika* school of Buddhism, founded by Nāgārjuna at the beginning of our era, studies the reality we perceive, and reaches a conclusion regarding that reality completely different from our ordinary experience. The empirical reality is composed of beings and things absolutely contingent. In this empirical reality in which we live there is nothing existing *in se et per se;* nothing has a being that belongs to it by own right (*svabhāva*); in this reality everything is conditioned.[1] relative,[2] dependent, contingent. Moreover, everything without exception is constituted by parts. No totalitary entity exists; there are only ensembles, conglomerates of parts,[3] elements, constituting factors.[4] Besides that nothing is permanent, inalterable; everything is in a process of change, submitted to an evolution which proceeds under the sign of decay and deterioration. And, as a consequence of what precedes, there is nothing which exists truly as it manifests itself before us (substantial, compact, etc.). The empirical reality, as we perceive it, is only a deceitful appearance to which nothing real corresponds, something similar to a dream, to a mirage, to an illusion created by magic.

The condition, the relativity, the dependence on another, the composedness, the impermanency, in a word, the *contingency* is the true nature, the true form of being of the empirical reality; and the form under which this reality appears to us is only an unreality, an illusion. So the ordinary experience is the opposite of the conclusion to which arrives the philosophical study of the perceptible world done by the *Mādhyamika* school.

TWO REALITIES: THE REALITY OF CONCEALMENT (*saṃvṛtisatya*) AND THE TRUE REALITY (*paramārthasatya*)

According to what preceds, for the *Mādhyamika* school there are two realities.[5] on one side, an apparent, phenomenic reality, the empirical reality as

it appears before us (substantial, compact, etc.). and, on the other side, the true form of being of the apparent reality (unsubstantial, composed, etc.), which is the true reality, in the same way as the serpent, under whose image we perceive the rope in the darkness, is the apparent reality, while the rope is the true reality.

The rope is a concealing reality, the threads that compose it are the true reality in regard to the rope; but at its own turn each thread is a concealing reality in regard to the filaments that compose it, and the filaments that compose it are the true reality in regard to the thread, and so on, without finding a last substantial reality.

Speaking in general modern terms, it could be said that the world as it appears to us is the concealing reality of the *Mādhyamikas* and that the atoms and energy which constitute the world are, in regard to it, the true nature of the world, the true reality. The *Mādhyamika* would add that the atoms and energy are, at their own turn, a concealing reality in regard to the elements which compose the atoms and energy, and which are the true nature of the atoms and energy, the true reality, and so on, without finding a last substantial entity.

The apparent reality, the empirical reality as it manifests itself to us, is called by the *Mādhyamika* school 'envelopment reality' or 'concealment reality' (*saṃvṛtisatya*). This is an appropriate term, because the appearance under which the empirical reality is perceived by us *envelops* or *conceals* its true form of being, which is the true reality (*paramārṭhasatya*).

Universal Contingency : *Svabhāvaśūnyatā* and *Pratītyasamutpāda* as Denominations of the True Reality

The true reality (*paramārthasatya*) can be designated with the words *svabhāvaśūnyatā* and *pratītyasamutpāda.*

Svabhāvaśūnyatā means 'emptiness (= absence) of an own being'. *Pratītyasamutpāda* literally means 'dependent origination', but in the area of the *Mādhyamika* school it can be translated as 'Universal Relativity' which Stcherbatsky rightly does.[6] Both words designate the true nature, the true way of being (conditionality, relativity, etc.) of the empirical reality—true nature that is concealed under the false appearance of the empirical reality and which is the true reality. Both words express the basic and, from all points of view, important conception of the *Mādhyamika* school about the empirical reality: it is only *a totality of contingent beings and things* in which there is nothing that exist *in so et per se.*

Many western thinkers have deduced from the contingency of the word the existence of a non-contingent supreme principle, God.* As Copleston states:

*Cf. 'The Existence of God: A Debate between Bertrand Russell and Father F.C. Copleston, S.J.' in Bertrand Russell, *Why 'I Am Not a Christian and Other Essays on Religion and Related Subjects* (London: Unwin Books, 1967), p. 139.

> Well, for clarity's sake, I'll divide the argument (from contingency) in distinct stages. First of all, I should say, we know that there are at least some beings in the world which do not contain in themselves the reason for their existence. For example, I depend on my parents, and now on the air, and on food and so on. Now secondly, the world is simply the real or imagined totality or aggregate of individual objects, none of which contain in themselves alone the reason for their existence. There isn't any world distinct from the objects which form it, any more than the human race is something apart from the members. Therefore, I should say, since objects or events exist, and since no object of experience contains within itself the reason of its existence, this reason, the totality of objects, must have a reason external to itself. That reason must be an existent being. Well, this being is either itself the reason for its own existence, or is not. If it is, well and good. If it is not, then we must proceed farther. But if we proceed to infinity in that sense, then there's no explanation of existence at all. So. I should say, in order to explain existence, we must come to a being which contains within itself the reason for its own existence, that is to say, which cannot not-exist.

Nāgārjuna's school affirms also the contingency of everything, but from such a fact does not draw the conclusion that a non-contingent supreme principle, God, exists. For him the universal contingency has had no beginning, is *anādi*, and consequently it is irrelevant to ask when, how and why did it begin. The hypothesis of a beginningless contingency has the same function as the hypothesis of a beginningless God.

The Denial of the Empirical Reality

The *Mādhyamika* school does not stop within the limits of the two tenets we have already mentioned, i.e. the opposition between the phenomenic reality and the true reality (which is nothing else than the true nature of the phenomenic reality), and the universal contingency; it carries on its analysis of the reality and reaches a more radical position, a 'nihilistic' position. The school denies the true existence, the existence as it appears, of the empirical reality, of all its manifestations, of all the elements that constitute it, of all the categories that manifest themselves in it, of all the characteristics which are proper to it.

The great majority of the stanzas of the *Madhyamakakārikās* composed by Nāgārjuna is destinated to deny the real existence of the principal manifestations and categories of the empirical reality: birth and destruction, causality, time, the sensorial activity, the elements that constitute man (*dharma*), passion and its subject, action and its agent, suffering, the consequence of actions (*karman*), the reincarnations cycle (*saṃsāra*), the ego (*ātman*), Buddha, the saving truths taught by Buddha, the liberation (*mokṣa*) from the

reincarnations cycle, being and not being, etc. In the same way, great part of the intellectual activity of Nāgārjuna's school had an identical aim.[7]

Fundamentals of the Mādhyamika Thesis

The *Mādhyamika* school has to establish and to demonstrate its nihilistic" thesis against other philosophical and religious, Buddhist and non-Buddhist schools, which adopt realistic positions. This demonstration is carried on in different ways.

The school adduces, of course, the texts that contain Buddha's teaching (*āgama*), which, duly interpreted, can serve as a basis for its thesis. For Buddhist schools these texts contain the truth, but only for them, and consequently cannot be adduced against the thesis of non-Buddhist people.

Besides that, the school uses reasoning, logical argumentation (*yukti*). The arguments, developed by the *Mādhyamika* thinkers to defend their own negative conceptions and to destroy contrary thesis, are contained specially in the great commentaries that accompany the works of Nāgārjuna and of the other masters that followed him. Among those commentaries, it is necessary to mention the most valuable commentary of Candrakīrtī on Nāgārjuna's *Madhyamakakārikās*. This commentary reveals the parallel use of Buddha's word and logic. Generally, the great masters of the *Mādhyamika* school like Āryadeva, Buddhapālita, Candrakīrti, Shāntideva, Prajñākaramati, faithful to the founder of the school, adopt the *prāsaṅgika* or *reductio ad absurdum* method[8], they do not adduce arguments of their own invention; they limit themselves to show the contradictory and absurd consequences that derive from the thesis and arguments of the rival schools. For instance, if one of these schools affirms the real origination of beings and things, the *Mādhyamika* will indicate that, in that case, origination should be either out of one self or out of another or out of one self and of another or without any cause; and will show that all these alternatives are logically impossible, employing for that aim, as basic principles of his own argumentation, the adversary's own principles.

Finally, the *Mādhyamika* school utilizes the analysis of the empirical reality in order to get results which destroy the rival doctrines and which found its own world conception. The treatise *Hastavālanāmaprakaraṇa* (stanzas and commentary)[9] gives us an example of this procedure. The author investigates the empirical reality and finds that it is composed only of entities which, on being analysed at their turn, happen to be mere appearances, covering or concealing other entities that happen to be also mere appearances which cover or conceal other entities and so on. This analysis reaches the conclusion that it is impossible to find something substantial, permanent and irreducible, in which one could stop and establish oneself. The thesis of the real existence of the world becomes, in this way, untenable, and the place becomes free for the *Mādhyamika* conception of the illusory character of the world.

The True Nature as Result of the Abolition of the Empirical Reality: *Śūnyatā* as a Denomination of the True Reality

As a result of this abolishing and negative process we have referred to, we have the *impression* that in the place where the empirical reality previously existed a huge 'voidness', an 'emptiness' is being created, is coming forth, is remaining. That 'voidness' which the abolitive analysis *seems* to leave behind itself before us is absolutely different from the empirical reality, since in it there exist no element, no manifestation, no category, that are proper of the empirical reality and which one by one have been eliminated by the abolishing *Mādhyamika* dialectic. That 'voidness' is the true reality which has manifested itself after the elimination of the false appearance that constitutes the empirical reality.

On the basis of the experience that has been described, the word *śūnyatā* (voidness) serves also to designate, as a metaphor of course, the true nature of the empirical reality or, what is the same, the true reality. From all the terms that designate the true reality, *śūnyatā* is the most commonly used and it is the one we shall employ.

The Existence of Voidness Previous to Abolitive Analysis

We have said that we have the *impression* that, as a consequence of the abolitive analysis, the 'voidness', i.e. the true reality comes forth before us. This impression is caused by the fact that the abolitive analysis is realized by the discursive reason, which in its analysis and elimination of all the elements, factors, manifestations, categories, etc. of the empirical reality must proceed gradually; and so, in our minds, the idea is formed that the 'voidness', the true reality, *is being created* step by step. This impression does not correspond to the truth, because the 'voidness' *has been, is,* and *will be* always there, independent of our analysis, previous to it, although it has not been perceived.

Using the comparison of the modern conception of world already referred to, we could say that the atoms and energy exist previously to the experiment that reveals them.

The true reality, the 'voidness', the extreme end to which the abolitive analysis cannot reach, can only be grasped *tota et simul*, in its total and absolute integrity, only in an act of intuitive yogic knowledge, which is reserved to the great *buddhas*. The contingency, realized in its extreme point, reveals to us the voidness in its extreme form.

The Doctrine of Universal Sameness (*samatā*)

A well-known stanza (*kārikā*) of Nāgārjuna (*Madhyamakakārikās* XXV, 19 and also 20) and its commentary, equally wellknown, by Candrakīrti, express that there is no difference between the *saṃsāra*, the empirical reality, and the *nirvāṇa*. Both effectively are only voidness, *śūnyatā*.

We have seen that, in order to find the true nature of the *saṃsāra*, it is necessary to eliminate through a rigorous abolishing analysis everything that manifests itself to us as forming part of the *saṃsāra*.

We must act in a similar way to find the true nature of the *ṇirvāṇa*. The *nirvāṇa* is what is completely different from the empirical reality when this one is considered not in its true nature, the *sūnyatā*, but under the false appearance under which it presents itself before us. In order to discover what the *nirvāṇa* is, we must also abolish everything that constitutes the empirical reality, specially being and not being.[10] That abolishing process, carried to its last consequences, total and absolute, will present to us the same *sūnyatā* that we have found on applying the method to *saṃsāra*.

Using the comparison of the modern conception of world again, we could say that all beings and things that form the world are identical among themselves, since they all are, in their last essence, atoms and energy: the uniformity is so an universal attribute.

Primitive Buddhism is built on the opposition, on the insuperable difference between *saṃsāra* and *nirvāṇa*, *nirvāṇa* being considered the full extinction of *saṃsāra*. For Nāgārjuna there is no difference: *saṃsāra* and *nirvāṇa* are the same since both are voidness.

We think that this is the only way to understand the idea of sameness between *nirvāṇa* and *saṃsāra*: that sameness has as its support the abolition of everything that is presented to us in the empirical level by our senses and our reason. It is impossible to understand that the sameness between both is based on the *saṃsāra* and *nirvāṇa* having as a common characteristic the *svabhāvaśūnyatā* and the *pratītyasamutpāda*, i.e. the total contingency, since *nirvāṇa* is precisely the unconditioned one—that which is beyond contingency, beyond conditions and causes.

Empirical Reality: A Mere Mental Creation

We have said that for Nāgārjuna's school two realities are opposed: on one side, the true reality and, on the other side, the false one which disappears with the abolishing analysis and which conceals or covers the first one. This second reality is a mere illusion in the common sense of the word, a mere mental creation, which is superimposed on the true reality, concealing it, in the same way as the illusory idea or image of a serpent which is superimposed on the rope seen in the darkness; in the same way as the illusory idea or image of a rope is superimposed on the conglomerate of threads which compose the thread, and the illusory idea or image of a thread is superimposed on the filaments that compose the thread and so on. The existence of the empirical reality, as we normally see it, is nothing else than the existence of an illusion, devoid of a true existence.

Using the same comparison as before, it is possible to say that, since the world is only atoms and energy without the empirical attributes of colour, taste, etc., the manifold variety of the world in terms of colour, taste, etc. is only a construction of our mind and senses, of our subjectivity and sensibility.

We find here the great function which the mind possesses in Nāgārjuna's school, as in all the Mahāyāna schools: the empirical reality is only a series or succession of illusions, of imaginations, of ideas, which our mind creates incessantly above the infinite abyss of universal voidness. And this succession of mental creations has had no beginning, according to the *anāditva's* postulate which is essential in Indian thought.[11] Of course, it can come to an end through the method taught by Buddhism, and on the day it comes to an end, together with the cessation of the imaginary creations of the mind, the empirical reality will also disappear and there will remain only the universal emptiness, which it concealed and which constitutes the true way of being of everything.

Similarly, in relation to each man, we can say that when his mind ceases to work in a transitory or definitive way the empirical reality ceases to exist with its variety and multiplicity, and, disconnected from the sensibility and subjectivity which produced its forthcoming, it remains in its amorphous state of atoms and energy.[12]

The great function which the mind possesses in Nāgārjuna's school must not induce us to be mistaken about its true nature: the mind which through its activity creates the illusory empirical reality, and which through the abolishing analysis gives us a glimpse of the absolute voidness—the mind itself belongs also to the empirical reality and as such is also contingent, is also void.

In the terms of the comparison referred to, the mind and the senses themselves, constituted by atoms and energy, are not something apart from the world they create; they are nothing else than atoms and energy.

Irrelevant Questions

Questions that naturally come to mind are : why, when, and how did the series of mental creations, which constitute the empirical reality begin ? But these questions are irrelevant, because the series of mental creations has had no beginning, and, therefore, nothing can be said about the cause, the moment and the manner in which that series began to flow, in the same way as these questions are irrelevant in reference to *Brahman*, also beginningless.

Liberation

Empirical reality, according to what we have expressed, is just an illusion, a mental creation, and of the same nature as bondage to reincarnations and liberation from that bond. Consequently, the man who wishes to liberate himself from reincarnations (the supreme goal of all religious and philosophical systems in India) has not to destroy anything really existent, but to put an end to the series of mental creations which constitute the empirical reality and the series of reincarnations, that is to say, he has only to stop mind

functioning, which is the source of those illusory creations. This is the great goal to be reached.

This is not an easy task, because the essence of the mind is precisely the mental creativity. The destiny of man, while he is immersed in the empirical reality, in its infinite reincarnations, is to originate incessantly a series of mental creations. The overcoming of that destiny can only be obtained by adopting the ethical and intellectual method, fixed by Buddhism with extraordinary effort, endeavour, and energy. When the mental creations cease, the empirical reality constituted by them ceases *ipso facto*, and the reincarnations which are part of the empirical reality also cease.[13]

Everything is Nirvanized *ab aeterno*

In Primitive Buddhism *nirvāṇa* was something completely different from the empirical reality, its abolition, its negation. The *Mādhyamika* school does not abandon this conception as it affirms that *nirvāṇa* is *śūnyatā*, voidness, and consequently is the negation of all the elements, manifestations, categories of the empirical reality.

To the *śūnyatā*, negation of all, as the true reality is opposed the empirical reality, which is a mere illusion, an erroneous mental creation. As a consequence of this *saṃsāra's* nature, there is not, there has never been, and there will never be a *true* and *real* forthcoming of anything and, therefore, no real transmigration, no real destruction, nothing real. And this state of things that means a complete negation of everything is precisely the universal voidness or that is the same: *nirvāṇa*. Therefore, nothing has ever really abandoned the *śūnyatā* or *nirvāṇa* state.

Finally, in the terms of the general modern comparison we are using, since the atoms and the energy never transform themselves into the beings and things of the world we perceive, assuming the empirical attributes with which they appear before us and since the world is only a creation of our mind and senses, we can say that nothing has really departed from its atoms and energy state, that it has always remained in that state, that is to say, in Buddhist terminology, that everything has been 'nirvanized' *ab aeterno*.

If there was a *real* forthcoming, transmigration or destruction, there would be negation of *śūnyatā*, to which something *real* would be opposed. But, as something *real* has never existed, does not exist and will never exist, the only thing that remains is the total *śūnyatā*.

It is not possible to argue that the uniqueness of *śūnyatā* is nullified by the illusory world which is opposed to it, because for Indian thought the uniqueness of a *true* reality that is postulated as unique can only be destroyed by another *true* reality; the existence of an *illusory* reality, opposed to the true reality that is postulated as unique, does not eliminate the uniqueness of that true reality.

Notes

1. Everything comes forth through the co-operation of a series of causes (*hetu*) and conditions (*pratyaya*).
2. A thing is *high* in relation to another one that is *low* in regard to it; a person is a *father* in relation to his *son* and vice versa. In the same way as 'high', 'low', 'father', 'son' exist, so exists everything in the empirical reality.
3. A rope is composed of threads; each thread of filaments and so on. Man is only a conglomerate of material elements, which form the body, and of sensations, perceptions, volitions, acts of consciousness. In the same way as the rope and man are only conglomerates of parts, so is everything in the empirical reality.
4. One of the great thesis of Buddhism is that the whole as such does not exist, that only the parts exist, and the parts at their own turn can be analysed into other parts and so on. Cf. Fernando Tola and Carmen Dragonetti, 'Dignāga's Ālamabanaparīkṣāvṛtti' in *Journal of Indian Philosophy*, Vol. 10, No. 2, ed. Bimal K. Matilal (Dordrecht : Holland/Boston USA : D. Reidel, June 1982, pp. 105-34, n. 6 in p. 129.
5. The *Mādhyamika* school does not admit another reality besides the empirical illusory reality as it appears to us, and the true reality which is the true nature of the former.
6. Th. Stcherbatsky, *The Conception of Buddhist Nirvāṇa* (London = The Hague = Paris: Mouton & Co, 1965), *passim*.
7. For instance, see Nāgārjuna's *Dvādaśadvāra* and Āryadeva's *Śataśāstra* and *Catuḥśataka*.
8. The *Mādhyamika* school was called sceptical by its rivals, because it refrained itself from emitting judgements. This suspension of judgement was a consequence of the conviction held by the school that any thesis, when it is duly analysed, falls into contradiction and that the true reality cannot be reached by human reason.
9. See our article 'The Hastavālanāmaprakaraṇavṛtti' in *The Journal of Religious Studies*, (Patiala: Punjabi University, Spring 1980), Vol. 8, No. 1, pp. 18-31.
10. This abolishing method corresponds to the method which the Hellenistic thinkers called *aphairesis* (Albinos, *Didaskalikos*, X, p. 165, C.F. Hermann (ed.); Plotinus, *Enneades* VI, 7 [18], 36; Plutarchus, *Quaestiones Platonicae*, 1001 E, who also uses *périkopê*) or 'analysis' (Clemens Alexandrinus, *Stromata*, V, 11, p. 374-5, O. Stählin [ed.]; Kelsos *apud* Origenes, *Contra Celsum* 7, 42 P.G.II, col. 1481 = p. 188 R. Bader [ed.]). Cf. John M. Whittaker, Neopythagorismus and Negative Theology' in *Symbolae Osloenses*, 44 (1969), pp. 109-25 (German translation in : *Der Mittelplatonismus*, herausgegeben von Clemens Zintzen, Darmstadt : Wissenschaftliche Buchgesellschaft, 1981) pp. 169-86.
11. Cf. Fernando Tola and Carmen Dragonetti, '*Anāditva* or beginninglessness in Indian Philosophy' in *Annals of the Bhandarkar Oriental Research Institute*.
12. Prakāśānanda, *Siddhāntamuktāvalī*, commentary of stanza 10, expresses the idealistic thesis with the following words: *ananubhūyamānaṃ dvaitaṃ nāsti* (duality, when it is not perceived, does not exist), opposing it to the realistic thesis expressed in the following way: *ajñatāsyāpi dvaitasya sattvam abhyupagacchanti* (realists admit the existence of duality even when it is not perceived).
13. Death does not stop the series of mental creations; this series continues after death in the new following existences, without interruption, although with the oblivion of the past experiences, and in a new body.

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Earth science theory and the discontinuity mathematics: some methodological reflections

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A dialogue is long overdue since the 'entretien' (De Maillet 1748) with an Indian philosopher on the diminution of the sea, the formation of the earth and the like. A fitting theme already in 1748 would have been 'Earth Science Theory and the Continuity Mathematics of Newton, Leibniz'. Theories of the earth were in the air and philosophy or mathematics did vitally interact with them. Leibniz (1652-1722) penned treatises on all three, or, even before him, Copernicus[1] in his preface to *De Revolutionibus* offered important synthetic insights. Nearer home, Al-Biruni is known for his mathematical or philosophical tracts, but his assessment of theoretical possibilities in earth science on Indian questions[2] deserves a close attention. The weakening of such interaction, in spite of Whewell, Thomson or Huxley, understandably ensued, as Hillaire Belloc commented in his Microbe:

> Oh! Let us never, never doubt[3]
> what nobody is sure about.

The present essay, however, seeks to share the doubts from 'fragmented strands of contemporary knowledge' in the hope that philosophers would join the discussion with characteristic lucidity of categories. Recent efforts in this direction on various aspects of Earth Science Theory with Popper, Kuhn,[4] Lakatos, or Feyerabend drawn liberally on in elucidation among the pages of journals as 'Studies in History and Philosophy of Sciences' (Rudwick 1974; Frankel 1979) are really heartening features.

However, the present author as an earth scientist will refrain from such excursions with his focus only on raising a few issues in passing around:

(1) Status of theory in earth sciences at present—role of induction or errors therein;
(2) Nature of the dialectic in the process frame of the earth—role of inversion;
(3) Historicisation and time's arrow in various sciences, specially in geology.

The Indian context and a Marxist overview are admittedly the underpinnings in many allusions.

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I. ES GIBT NIGHTS PRAKTISCHER ALS DIE THEORIE—*Boltzmann, 1895*

Today an earth scientist seeks to impart a touch of authenticity to his results by intending to 'exclude theoretical considerations as far as possible' (Choubey 1971: 40). For geology, indeed, typical are theories that emerged as empirical generalizations. This dose of 'empiricism' (Onoprienko 1973) is a legacy from the Thomson requirement of the last century for a 'reform in geological speculation': he would not countenance even a crust thinner than 2000 km! Thomson made his thermodynamics to bear adversely upon the epitome of nineteenth-century earth science theory, Charles Darwin, whose non-catastrophic tectonic theory on Glen Roy was already challenged by the geologist brother of William Thomson.

Thermodynamics in the Boltzmann research programme is now sought to be synthesized with Darwin by the discontinuity mathematics of Prigogine. It is from Rene Thom (1975: 9) we gather: 'Nothing disturbs a Mathematician more than Discontinuity.' Nothing more does so also to earth scientists since Lyell seemingly put an end to a popular version of Werner-Cuvier discontinuities or Eli de Beaumont generating mountains like so many 'jacks-in-the-box'. Relevance of this debate at present is underlined by Belousov (1970: 110) claiming that oceanic crust study is now at a stage 'analogous with that of continental geology of the days of Eli de Beaumont, who held that the main structural zones of the earth surface lie on the edges of an icosahedron' (a twenty-sided solid). Before relating them any further, a second look at each of the Theory Triad is offered below.

Other men of science in 1830s thought of Darwin 'chiefly as a Geologist' (Hallam 1983: 159; Chandra 1977). He was under the tutelage of Lyell and Whewell of 'Philosophy of Inductive Sciences' fame, but sought a reductionist materialist system which would meet the 'romantic objections' of Whewell. The rebirth of naturalism was first brought about, let us recall with Huxley (1947: 6), by 'the romantic movement-irrational activity, the disorderly variety and plethora of facts, to be disclosed by Geology', when Hume had made rationalist empiricism incredible 'by making it self-consistent'. Lyell's traditional assessment as a gradualist and contraposition with Cuvier's catastrophe theory is now questioned, helping us to understand Darwin's preference for 'continual' over 'continuous'.

Hooykaas (1966) has brought to our notice the 1863 position of Lyell: 'I doubted whether the renovating force might not be *Intermittent* instead of being, as Lamarck supposed, in ceaseless operation. Might not the births of new species, like the deaths of old ones, be sudden?' Even in 1837 Lyell pointed out that he did not lay down as an 'axiom that there cannot have been a succession of paroxysms and crises' (Challinor 1972). We gather from Gould (1982) that Lyell could understand how selection might operate like 'two members of the Hindoo Triad'—Vishnu, the Preserver and Siva, the Destroyer (cf. Nataraj on the cover of Prigogine, 1980), but not like Brahma,

the Creator. Lyell's explanations tended (Rudwick 1972: 186) to be 'gradual' in the original (—small sudden steps) rather than the modern sense of the word. Werner also taught on 'gradual transitions' between his phases. Then, occasional sudden 'revolutions' of Cuvier, whose use of the word is 'less Newtonian (*Ibid*: 108) than political', can hardly be contraposed to Lyell. On the contrary, Pavlov in 1913 contended (Vysotskii 1977: 115) that Lyell carried out as if the research programme laid down in the will of Cuvier. This probably has led to the view that Cuvier is 'basic 'to much Soviet stratigraphic thinking (cf. Harland 1971: 28), if we dismiss the not so new a dogma on their theories belonging 'appropriately to Mars, the red planet' (Wood 1980).

Thus, Lyell's was less a comprehensive 'Theory of the Earth' than a 'heuristic principle'. Darwin was hoping to establish on this basis a steady-state theory of elevation and subsidence that would be causal in character. He relied on 'principle of esclusion' and a 'consilience of inductions' (Rudwick 1974: 167). In his system: 'The Unmoved Mover which is responsible for Patriotism, Love and Morality is the Geological Environment' (Cannon 1976).

So Engels described Darwin's theory as a 'practical demonstration' of the Hegelian concept of the inner connection of necessity and chance. When Engels dismissed Tremaux's theories as a 'ridiculous construct guilty of terrible blunders in Geology', Marx reminded him (Joravsky 1961: 7) of Cuvier who was a great geologist but was wrong while German nature-philosophers on evolution were right. Marx's debt to the study of contemporary geological literature in making the leap from Hegel has been increasingly highlighted in East Germany and Soviet Union. Marx's statement (Shantser 1970: 11), 'Bourgeois society gives us a *key* to the ancient' has been rightly related to the well-worn enunciation of the uniformity law. Marx himself commented (Rosenberg in Rahman, 1980: 468) on the development of geology 'that directly form the specific basis of Agriculture rather than of Industry' not taking place till the nineteenth century and especially the later decades. At the turn of the century, the time of the great classical treatises on earth sciences like that of Suess, Russia is found 'mute, being occupied only by its Revolution' (Dunoyer 1968: 166). But Lenin in those days did point out 'movement to nothing' in nature and life, while ruling out any 'movement from nothing'. And Needham convincingly restores the perspective (1946: 123): 'Continuity and Discontinuity may be two alternative modes of scientific expression, dialectical contraries, neither of which is ever permanently victorious...emergent evolutionism and dialectical materialism are the principal modern representatives of the *discontinuity* view.'

Already in 1859 T.H. Huxley wrote to Darwin: 'You load yourself with an unnecessary difficulty in adopting *Natura non facit saltum*" (so characteristic of Leibniz) 'so unreservedly'. On one hand, geology was struggling to be 'the poor man's science', as Kingsley affirmed (1877: 30), by studying which,

'the man ignorant of Latin, Greek[5], Mathematics, Scientific Chemistry', can yet become a truly scientific man. On the other, evolutionary analysis was elitist in showing to be right the 'maximum of variety-in-unity' for Huxley (1947: 128). In 1893 (*Ibid*: 65) we are told:

> To the early philosophers of Hindostan, *no less* than to those of Ionia, the salient and characteristic feature of the phenomenal world was its change-fulness; unresting flow of all things, through birth to visible being and thence to not being, in which they could *discern* no sign of a beginning and for which they saw no prospect of an ending.

A return indeed to 'Theory of the Earth' of the modest, observant, empirical and philosophical mind of Hutton, whose Indianness has been indicated by Holmes in our time. In 1969 Needham (p. 179) concurs with Lyell (1868:9): 'The philosophers of the Indian culture-area shot their arrows correctly to the spots that the mountaineers of Science would reach definitvely much later on.'

We find that Suess, the master of old global tectonics, switched from the 1848 barricades to the professorship in Vienna, relinquishing which he beckoned to the mouth of Ganges as 'terminal' (Ross: 21-26), illustrative of an independent 'unity in diversity' of life. This 'democrat in an aristocratic society' was never moved (Ginsberg 1973: 80) by 'a great inductive generalisation based on a single sample'. In 1890 he warned us: 'Der Naturforscher muss wissen, dass Seine Arbeit keine Andere ist, als das Klettern von einem Irrtum zum Andern' (cf. Lyell 1867: 39). This, however, Bailey Willis of America, where with Henry Adams 'catastrophe was the law of change', dismissed by saying: 'I knew him well. Suess gravely lacked critical faculty' (Hallam 1983: 136). Like Huxley (1906: xvii) he believed in 'devouring error with unquenchable fire'!

Darwin carried this problem of error from his tectonic theory to evolution. He held that the integrated result of operation of modern geological agents is '*not* equal to the sum' of their activity over the entire period of deposition of every concrete formation (Parnyuk 1979: 87). Evolution, too, has apparently been characterised 'by bursts of production that were followed by periods of relative stability'. The dimensions of geology fall between those of classical and relativistic physics—this applies to any attempt at synthesize via topology or thermodynamics. Indeed, Vernadsky was ready in 1931 to concede (Krut, 1978: 163) that, yearning for a unified field theory may be an 'illusion'. Within earth science theory, again, as late as in 1956 Wegmann was holding: 'Manchmal handelt as sich nicht nur um einen Widerspruch, sondern um Ganze Knäuel von *Antinomien*' (van Bemmelen 1972: 127).

This 'dual nature' of geological processes—they are continuous as well as discrete—is acknowledged now widely (Isotoriya 1979: 37). In 1951 Read

(p. 22) indicated that the question of 'either-or' is most often correctly answered by 'both'. And in 1965 Wagenbreth generalized (Vysotskii 1977: 248): 'If in Geology two opposing hypotheses coexist—none of them is fully wrong'. This should not, however, skilled the operator may be, discourage good theorizing, as lack of it leads from science to art, craft or technology while the one that challenges practice 'is of the essence' of scientific method. There is, of course, the risk (Blanford 1890: 60) of a sound scientific theory being accepted in a much wider sense than 'intended' by the original advocates and the risk is extreme when the theory coincides with the popular taste.

II. FIRE RESTS BY CHANGING—*Heraclitus, Fifth Century B.C.*

Thom believes (Goodwin 1973) with Heraclitus that nature is *one*. Students of crustal tectonics, the 'citadel' of any earth science theory, have invoked (Hallam 1983: 106) his new 'catastrophe theory' in mathematics. Thom himself turned in 1982 to Plate Tectonics to dismiss mathematically the requirement that the lithosphere be solid (rigid) and identify island arcs as 'singularities'. Plate Tectonics, however, does not, many earth scientists (Belousov 1978: 216) point out, 'recognise Nature having oneness' (*tsel* 'nost').

With Sinha[6] specifically dealing with catastrophe theory, an outline as perceived by this earth scientist would suffice below before tracing the relations of theories:

(1) Catastrophe theory is usually about local degenerate *singularities* of functions that form an open dense set of smooth maps. It is mainly concerned with the classification of potential functions.
(2) This topological tool arose in refinement of theories on bifurcation, deformation, stratification, stability. Thus, the case for differential geometry by way of algebra elegantly moving to geometry, as in relativity, is consolidated. In particular, Whitney's and Morse's contributions to c^{∞} topology are *generalized* by René Thom. Control space dimension is theoretically investigated up to 20 (Arnol'd) but in practice restricted to 6 with a small number of finite unfoldings.
(3) Through local choices of neighbourhood, this theory has certainly wrought a tool for intuitive overview. *Applicability* is still in a groping stage, the best results so far being in caustics. In phase transition physics generalized from Landau theory, this approach flounders quantitatively in the matter of exponents. Qualitative light on brain modelling and associated therapy is quite rewarding, so also a deeper level of explanation in hierarchical theory, say, in biology. Else, in social, bio- and earth sociences the control space having more dimensions than can yet be managed by the theory, only elegant descriptions of morphology and no aetiology can follow.

Above, of the mathematical triad, we have left out 'arithmetic' which many dub (Krendelevs 1977: 22) a science of the 'discrete' as against geometry, one of the 'continuous'. Thom connected geometry with magic (cf. Huxley 1863: 268) by an 'either-or'. The ancient Hindu addiction to both is then perhaps a vindication of the Read postulate at the end of the previous section. Let us, again, recall the Al-Biruni charge (i: 363) in chapter XXXIX: 'If those dreamers had more assiduously studied Arithmetic, they would not have invented *such* outrageous numbers' for the earth age, long since upheld, however, by the current geological theory.

Zeeman, the 'lucid exponent of Thomism,' expected this theory with its Aristotlean stress on 'overall intelligibility' to provide a mathematical language for the hitherto 'inexact' sciences, an epithet Huxley would have certainly resented (1863: 99, 269-70; cf. Zigic-Toshich 1972: 215) for his 'physiological' sciences including geology. Hysteresis is rarely achieved in geological systems. So an exit mechanism plus the implementation of a steady-state process to achieve equilibrium are the Cubitt requirements to be placed before qualitative mathematicians seeking (Sinha 1981: 1) to describe 'evolution of forms in Nature', Clearly, to date they have touched only earth mechanics (Thom 1975: 9) and not the historical facets.

In 1975 Thom considered 'gratuitous and otiose' assertions that a unique and unrepeatable phenomenon like evolution (*Ibid*: 291) occurs according to a plan. He dismissed Marx (p. 319) in a single sentence: 'Marxism is equivalent to Child's metabolic theory of embryology and suffers from the same simplifications.' In 1977, however, Thom considered it wrong to equate his discontinuity mathematics with Darwinian Theory of Evolution or Newtonian Theory of Gravitation. He explained its 'very little importance in Physics', attributed its 'considerable sociological success' to an 'overoptimistic vulgarisation' and stressed the conceptual-epistemological interest of catastrophe theory, which admittedly escapes the Popper criterion of falsifiability. Later, he claimed it as 'no less and no more a tool' than polynomials, while Zeeman (Sinha 1981: 72) came up with: 'In the years to come, the name catastrophe theory will disappear but geometrical techniques of modelling would remain'.

Meanwhile, engaging illustrations abound. Catastrophe theory gave in 1981 a descriptive model for nuclear electricity debate. Again, the introduction of 'such funnily shaped surfaces' helped Zeeman to relate liberty-equality-fraternity with opportunity for interpreting the world of revolution in terms of liberal and authoritarian rights and an emergence of compromise opinion in a tristable butterfly cusp! Thom himself applied them to a 'theory of revolutions' as historically obtained in France to show that economy is not a fundamental factor (cf. 'tactical not strategic' in Vysotskii 1977: 238). In short term the dialectic of physical and cognitive power is decisive for Thom as in the legitimacy paradigm of Weber. The Marx-wary Thomist cusps have, again, been used (von Parijs 1979) to solve the 'riddle of historical materialism': the central intuitions are found not self-contradictory! Lastly, how this exploration of discontinuity relates to the quantity-quality frame or the Lévi-Strauss triad of Geology-Marxism-Freud remains yet to be seen.

Yes, in the give-and-take of the scientific market-place only that of value survives. Earth scientists regard (Middleton 1972: 56) classification that cannot be 'transferred without modification' from one discipline to another at best as an art. They recall that taxonomy predated evolution by a century, and even now the 1914 Haug Triad of lithogenesis, orogenesis and glyptogenesis is not causally related. Meanwhile, the irreversible and continuous finds (Leonov 1970: 15) its 'regional expression' in cyclicity (recurrence in a secularised form) and breaks. Earth scientists like Auden or Yanshin found the 'cosmology of plate movement' with India 'particularly subject to moves across the chessboard' not more meaningful than debates of medieval scholastics on the 'number of angels' that can be accommodated on the needle point. Nevertheless, the 'trouble-maker role' of Plate Tectonics long ahead is conceded by Sheinman (1974: 24), who has urged us (1975: 9) in his posthumous follow-up to 'think through a new serious matter', giving to it the dearest of a scienceman—his Time.

III. DIE ENERGIE DER WELT IST KONSTANT. DIE ENTROPIE DER WELT STREBT EINEM MAXIMUM ZU.—*Clausius 1865*

Thermodynamic laws as expressed above rather than in thermal terms are obviously more related to earth science theory. Unlike in the domain of the physicist, the chemist and the mathematician, in 1854 Huxley (1863:265—267) pointed out: 'Living things tend to *no* equilibrium.' In our own country Fermor (1922: 37) was prepared to let his geologist-historian describe the setting before the advent of man as 'something kinetic'. There is a feeling (Kuenen 1965: 35) that in the long run geology cannot fail to 'merge to a great extent with physics and chemistry'; earth scientists, however, recognise the difference (Krut' 1978: 115; Parnyuk 1979: 107; Istoriya 1979: 116) between geosystems that generate 'order from disorder' and biosystems deriving 'order from order'. Thom derives both order and disorder from unity-diversity cusps, while God or Chaos emerges from those of Unity-Unity or Diversity-Diversity.

In a bid to do away with the duality between initial conditions and evolution, the choice between Boltzmann and Darwin, a new mathematics outside differential calculus has been evolved by Prigogine and his group. In this schema, collisions lead to correlations, everlasting ones excluded by the second law of thermodynamics. Instability and fluctuations then lead to an intrinsic randomness, characterized by Markov semigroups and symmetry breaking. This ends in intrinsic irreversibility in cases with some minimum degree of complexity. Thus, irreversibility is the manifestation on a macro-

scopic *scale* of 'randomness' on a microscopic scale—they are only *cousins*! (Prigogine 1980:176). Evolution on a non-trivial sense requires a continued interaction between the two levels. Anisotropy of time (cf. the second time of Adrian Hobbes) appears on all levels: from the level of elementary particles up to the level of cosmology.

But geology was not accepted (Prigogine, Nicolis 1982a) as 'really belonging to the realm of physical sciences'. So Prigogine was not sure of 'millions of years' fitting in with his concept of 'Time's Arrow'. My search for familiarity with geological material in Prigogine's writings drew almost a blank, save the reference (1982b: 104) to tektites and several other 'frozen' non-equilibrium structures shown by geological processes, if not to mention a diorite on the cover of the 1979 book. No wonder then that Prigogine's Darwin (or, for that matter, his Teilhard de Chardin) is thoroughly degeologized!

Earth scientists, however, were keenly following (Leopold, Langbein 1962) the Prigogine programme from 1955 and adopting the probability definition of entropy given by Boltzmann. They (Krut' 1978: 111, 259) indicated the independence of the amount of entropy from initial conditions and held the Prigogine Theorem as 'not always applicable' to systems with feedbacks, as in the stationary state the system tends to conditions with minimum growth of entropy. Stationarity being a firm requirement in Markov chains, earth scientists found it feasible (Krumbein 1975) to 'convert' the latter to continuous-time models with the states made continuous instead of discrete.

It seemed long back to Kosambi that (Rahman 1980: 445) non-associative linear algebras and Markov chains would 'remove' many of the physicists' theoretical difficulties. To this end, again, in 1956 Harland was enunciating his Principle of Tectonic Uncertainty. Wright even considered geology, a 'science of process' as a 'close second to physics' for providing a breeding ground for the 'totalitarian' outlook. The gap is bridged by Prigogine (1980: xvii): 'Anyone interested in the problem of Time cannot avoid taking an interest in the cultural and social changes of our time as well.' In other words (Prigogine, Stengers 1979: 276): 'L' histoire de la science négatrice du Temps fut aussi une historie de tensions sociales et culturelles.'

We are told again and again (Prigogine 1978: 781; 1980: 106) that, in a sense, bifurcation introduces 'history' into physics: we are reminded of the historicization of the dialectic by Marx. We find Prigogine stressing (1982b: 19.47) that 'there will be no end to history', no heat death, no Apocalypse—he offers us hope as does Marx. Indeed, entropy plays a considerable role from physics to economics and 'political thought' in the present cultural context. In a sense, his approach (Courbage, Prigogine 1982) puts the usual interpretation of entropy 'upside down': we recall Marx inverting Hegelian dialectics. Time in his assessment (Stengers 1979: 29; Prigogine 1982c) expresses our 'belonging to Nature, not our Alienation': the 'dialectics' between what is *in* time and what is *out* time will probably continue for ever. On

'being and becoming', however, we have to keep in mind the caution (Needham 1946: 123): 'What a thing is, is not explained by saying how it has come to be there, any more than it is possible to say how it has come to be there by saying what it is.'

This is the context in which Prigogine understandably takes on Einstein for maintaining: 'For us who are convinced physicists, the distinction between Past, Present and Future is *only an illusion*, however persistent.' For Einstein, irreversibility (Prigogine 1980: 203) is an illusion, a 'subjective impression' coming from exceptional initial conditions. 'Now' seemed to Einstein to be outside science. 'Now' seemed to earth science theory (Vysotskii 1977: 157) to be a 'chance combination of conditions' with no specificity of its own. Indeed, it seemed that science has 'exorcised' time and could be formulated in terms of basic eternal laws in which no reference to time need ever be made! Even Prigogine (1983) admits: '..at the fundamental level, there is *no* place for History.' Earth scientists, however, recognize a warmer kinship in his formulation: 'Present is a *recapitulation* of the Past, and an anticipation of the Future.' It is only because tomorrow is not contained in the present, earth science theory would agree, that irreversible, oriented time may appear. Yes, the future is no longer given, it is no longer 'implied' in the present (Prigogine 1982b: 82), not 'included in the past' (1980: xvii). We are reminded of the Byron legacy: 'The best prophet of the Future is the Past' (Ross 1976: 408).

The tragic trajectory of Newtonian Time loses its meaning in highly unstable systems, where probabilities only are meaningful. So, Prigogine takes on (Misra, Prigogine 1981: 41) Einstein again: '..it is amusing to recall that he cherished the belief that "God does not play dice".' He conceded that a deterministic description prevails between successive bifurcations, but held that laws are applicable only in limiting situations with the very concept of 'law' needing revision to suit nature on our own scale. Earth scientists too deny any ' a priorism' (Leonov 1970: 15) in evolution. The basic assumption of order and regularity in nature is a tool of our thought equally as word, syntax or mathematics. It must not be elevated beyond that to lead to the M. Born position of regarding irreversibility as a 'consequence of the explicit introduction of ignorance' into the fundamental laws.

Thus, we are led by Prigogine from trajectories to processes: dynamics and thermodynamics limit and propagate each other as compatible, complementary, non-commutative. We are still far from any synthetic view (or, is it an 'illusion', as Vernadsky insinuated ?) encompassing gravitation and entropy. The real in a sense only becomes a 'part of the possible'. Perhaps there is a more subtle form of reality that involves 'both laws and games, Time and Eternity'. Scientific work, as per Prigogine (1980: xvi, 51), consists of 'elective *explorations*' with time as an 'operator and not a parameter'. Our century is, indeed, a century of explorations.

IV. I AM SCARED BY THE SPIRITS EVOKED BY ME.—*Schindewolf, 1970*

Explorers in earth science theory (Hallam 1983: 25) have pointed out 'Newtonian overtones' of a temporally indeterminate interplay of forces in Hutton. Krut' (1978: 310-311) elaborated that Hutton gave time the absolute Newtonian connotation and also the 'topological' property of rhythmicity, while Walther exposed the 'general relativity' of geological space-time with its inadequacy with respect to physical space-time. Simakov (1974) tabulated the geological postulates with Newtonian and Relativistic Time assumptions, the latter favoured by Darwin, Gressly, Waagen and Walther.

Theoretical Geology is explored recently with some vigour in Soviet Union, often in total disregard (Abramovich 1978) of Thom, Prigogine, the 'Russkii Belgiets', or even Walther. But we find, besides a sure finger on 'fuzzy boundaries', attempts to redefine 'Time by process' (Onoprienko 1972: 12) or identify historicogenetic systems (Kosygin 1970) with only 'Logical Time'. The Novosibirsk school[7] is demonstrating the need for semantic codification, polynomy and mathematizing the concept-base of geology. Even in that country Borovikov has identified a lag of 15-50 years in the existing geological education behind the present level of science to insist on an inclusion of qualitative mathematics.

In India the present geological practice brooks not much theory or mathematics, and the discontinuity is only relegated to the underground. We are in the unenviable slot of the author of 'Geological Inquiries' in *Philosophical Magazine* (1817): 'To reduce Geology to a System demands a total devotion of time, and an acquaintance with almost every branch of experimental and general science, and can only be performed by Philosophers.' However, this accretionary montage has now to be discontinued certainly with an awareness that in music a variety of themes can be superposed and interwoven—sentences, perforce, are 'linear'.

NOTES

1. Copernicus' relevance to earth science theory has been discussed by me (Chandra 1979 : 57) earlier. Ranalli finds in Hutton 'if not the Newton then undoubtedly the Copernicus of Geology'. Mathematics for the Copernican model was not 'intended to deal' with discontinuity, though in analogy he has been evoked by Wilson in the context of New Global Tectonics.

   Copernicus himself did not claim to be a mathematician, whose way of handling reality he had characterized (Kuhn 1971: 138) in his preface to *De Revolutionibus* : 'It is as though an artist were to gather the hands, feet, head and other members for his images from diverse models, each part excellently drawn, but not related to a single body and since they in no way match each other the result would be monster rather than Man.' His lament (ibid.: 142) 'there is no remedy against a sycophant's tooth' prepares us for the succeeding culture-heroes, Giordano Bruno and Galileo. Prigogine (1982c), however, was much critical of Bruno in theory even *vis-a-vis* Paul Valéry! Galileo in 1615, we gather from Fersman (1958: 82), was 'the first' to attempt an estimate of the Earth's Age. In modern India, again, Kosambi took up the refrain (Rahman 1980: 451) from Copernicus: 'The meretricious ability to please the right people, a convincing pose, masterly charlatanism and a clever press agent are *indispensable* for success.'

   Copernicus' reference to India (ibid.:146) is also interesting to recall: 'Geometrical arguments demand that the main land of America on account of its position be diametrically opposite to the Ganges basin in India', a *site* that recurs in earth science writings of Barrell, Walther, Suess, Lyell (1867: 470-484) or Al-Biruni!

2. Al-Biruni tells us (198) in Chapter 17:

   'If you have seen the soil of India with your own eyes and meditate on its nature—if you consider the rounded stones found in the earth however deep you dig, stones that are huge near the mountains and where the rivers have a violent current, stones that are of smaller size at greater distance from the mountains, and where the streams flow more slowly; stones that appear pulverised in the shape of sand where the streams begin to stagnate near their mouths and near the sea—if you consider all this, you could scarcely help thinking that India *had once been a sea* which by degrees has been filled up by the alluvium of the streams.'

   Several centuries after A.D. 1030 this relation of grain size with long profile is now acclaimed as 'Biruni-Sternberg Law'. The Indian context has the counterpoint from Blanford (1890:90) : 'There is no evidence that marine conditions prevailed in *any* geological epoch whatever in the plain of northern India from Agra to the Brahmaputra', while Fermor (1922: 37) stretched the northern shore of the Gondwana continent' somewhere across the northern edge of the Central Provinces or the southern edge of the United Provinces, and Tethys lying over the plains of the Punjab and Hindustan'. To both, of course, Al-Biruni was out of reckoning. He decidedly sounds contemporary (ibid.: 24), when in Chapter I he qualifies: 'It has never fallen to my lot in my own doings and goings to be perfectly independent, nor to be invested with sufficient power to dispose and to order as I thought best.'
3. The citation is, of course, from a geological monograph (Wills 1956:187), which tempted me also with an end of '*The Mikado*' (p. 30)

   Your notions, though many,
   Are not worth a penny
   The word for your guidance is 'Mum.'

   Finding that nobody is quite sure about 'evolution', let me quote the Fersman (1977: 130) definition: '....a regular sequential relation of Phenomena, flowing from the preceding ones and leading wihout fail in a strictly causal manner, to new subsequent states that are stabler under given conditions and so more perfect in Nature.' Khain has suggested (Istoriya 1979) that the period of the active evolution of a chorological subdivision is directly connected with its size.
4. Kuhn, a physicist, penned 'Copernican Revolution' in 1957 long before attaining the fame of his 'Structure', where he named as illustration the 'Huttonian Revolution' in geology. This has led to a high citation index among geologists, particularly in the context of New Global Tectonics. But scientific history, particularly in geology, seldom supports his much-quoted 'somewhat simplistic' view of scientific revolutions (Harland in *Geological Magazine*, 3, 1983: 308; Chandra 1979; Ginsberg 1973: 4; Rudwick 1972: 267).
5. The Kuhn unwisdom on Greek Science I have commented on (ibid.: 70) earlier. Fersman went further (1977: 11) contending that the general nature of Greek culture 'little

aided' the march of Natural Science. Wright regarded the moment in Greek thought when mind and soul were detached from body as a 'typical and dreadful' example of the ill-effects of the 'forceful, tidy mind' imposing itself on the subject. A comparison of *Principia* with Thom (1975) on the latter's cover reminds me, again, of Kosambi (Rahman 1980: 453): 'Newton's Latin prose and archaic geometrical proofs in the *Principia* make that work unreadable, but do not make it Roman or Greek Science.'

6. Dr Sinha brought us face to face with Zeeman in 1979 and Thom in 1983 at Jadavpur University, where in addition a colloquium on Qualitative Mathematics was held in 1981. This started my limited exposure to this form of discontinuity mathematics. In fact, oral presentations of Thom and Zeeman have been drawn on here, when no reference is indicated, In his 1982 December presentation at JNU Prigogine recounted a Thom imagery on quantity-quality transformation: the difference between three and four is one of a prime and a non-prime number!

   Thom and Prigogine are related in the Foreword of Sinha (1981), who has brought in earth science situations too as 'phenomenologically amenable to catastrophe theory' (p. 110). Sinha has also earlier cited in this context Henley 1976, misprinted as a non-geological reference on p. 11 of his Kanpur IIT Lecture notes of 1978. Somehow he has missed Cubitt 1976 which immediately followed Henley in the same issue of Mathematical Geology, stressing (p. 659) the uniqueness of catastrophe theory in its 'ability to model and predict features of stable and unstable conditions in a *single* system'.

7. Take, for example, Sharapov (1972: 126):

   > Geologists confuse prognostic concepts with heuristic ones..Realisation of prognostic and heuristic function of Geology is an Art, but ought to be a Science. What is given out by some researchers as formalisation is, in fact, simply a symbolisation. Attempts at formalising geological concepts without creating metatheories did not succeed...Formalisation ought to prepare Geology for cybernatisation..Nomological paradigms are hazy and not systematised in Geology.

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Phenomenology in physics and philosophy

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INTRODUCTION

In any empirical science, physics in particular, and surprisingly in philosophy which can hardly be called empirical but speculative, the concept and practice of phenomenology plays an important role. The onward progress of scientific research can hardly be possible without, at some stage in its development, recourse being taken to the practice of phenomenology. Contrary to the general belief which designates the name phenomenology to a certain isolated formulation of physical thought (thermodynamics), we believe that the thread of phenomenology runs through the fabric of the development of physics from ancient times up to the modern age. It is our belief and conviction that the evolution of scientific thought takes a course which is not a smooth paved road devoid of any obstacles, but is a path to be trodden with utmost caution as one has to find one's way through darkness of ignorance, obscurities and wrong leads. However, during the hazardous, yet exciting journey in which many new paths are traversed, many challenges are met, many insights are acquired, a stage is reached when we suddenly emerge in the open, illuminated by the dazzling light of realization that we have made a sudden leap forward. Thomas Kuhn[1] calls it by the name 'paradigm' which he defines as a universally recognized scientific achievement. We shall use the term 'breakthrough' to describe the quantum jump in our understanding of natural phenomena.

The breakthrough provides the practitioners of scientific research a vantage point from which to scan the inaccessible facets of their science. This stage gives the feeling of sudden relief from the oppressive atmosphere of prodding through the imponderables before the realization of the breakthrough. From one breakthrough to the next in science, particularly in physics, to which we will confine ourselves, one has to trudge along the imponderable, though qualitatively different paths from each other. A question then arises: what guides a practitioner of scientific research in his onward journey along such paths and leads him closer to the next breakthrough? It is our assertion that, in the intervening period, guidance to the process of the unfolding of the evolutionary process is provided by phenomenology. We believe that the phenomenological approach is the torch carried by the physicist which shows the way leading from one breakthrough to the next. The phenomenological approach guides physicists from the stage when they start realizing that the euphoria experienced by them at the time of the arrival of the breakthrough

begins to evaporate. This feeling starts creeping in when one realizes that after all the sudden leap forward, apparently explaining everything that baffled them before, was not really the glorious end of the road. The evidence of this starts piling up like an increasing avalanche; the experimental and the theoretical thrust following it contributing to this feeling. The more one goes into the inadequacies of the previous breakthrough, the more holes one drills into its structure. Experiments performed during this period lead to more results which seem to defy any understanding of natural phenomena by the previous breakthrough and its extensions. These experiments contribute in no small measure to the feeling of inadequacy of the tenets of the previous breakthrough. It is high time to use these results in conjunction with the ideas that appear in the breakthrough to develop a formalism where the experimental results are incorporated into the theory in a manner known as the phenomenological approach. This approach and its practice enables one to extend the scope of the breakthrough far beyond the realm it was intended for. However, no matter how far one is able to extend the scope in this way, it can never attain the status of a full-fledged theory. The example of this in the subsequent sections prove the point. It will be noted that we are not using the term 'phenomenological theory' as something that attempts to describe and summarize experimental facts within some limited domain of physics very accurately, but as something which serves as a torch to search in the dark when a breakthrough, previously attained, fails any more to provide adequate guidance in the pursuit of physicists to forge ahead in the struggle to understand nature. This struggle continues with increased vigour as more and more phenomena are unfolded. The results of predictions from the phenomenological approach so far developed and incorporated into the theory as further phenomenological steps or newer experimental results, obtained during this period, are woven into the fabric of the ongoing theory. Nevertheless, a sense of inadequacy still persists, as one notices that the theory so constructed is a collection of weakly connected juxtaposed pieces, arranged in their positions by the phenomenological glue. A basic theory is still missing! By a basic theory we mean a theory of nature, distinguished by its wider scope of applications, and not restricted by any exceptions to its realm by the requirement that it explains the phenomena only so far developed. This impasse may continue for a period of time till another breakthrough arrives on the scene.

The term 'phenomenology' or 'phenomenological approach' is used by physicists and philosophers to mean things which are methodologically different. The measuring apparatus is an integral part of the scientific method used by physicists. Depending on the experimental environment, varied kinds of equipment (e.g. mechanical, thermal, optical, electrical, etc.) provide empirical data in the form of meter readings, density of water molecules on particle tracks, impressions on photographic plates or on a chart recorder,

etc. which enables a physicist to verify a theory or, as shown in the earlier paragraph, to extend the scope of a theory beyond its realm.

On the other hand, philosophers would use the term 'phenomenology' independently of objective measurement techniques as they reject both the 'verifiability principle' of the logical positivists and empirical standpoint of the realists. This amounts to rejection of a space-time framework (necessary in physics) for the understanding of objects in nature (the world-das welt). Unlike the reliance of the physicists on objective measurements, they depend on what they call the method of 'intersubjective communication'.

The philosophical tradition from Descartes to Husserl has followed the methodological principle 'claim only what you see clearly'. This emphasized the assumptions that one can deal with all things from the point of view of isolated pure subjectivity, and that one must deal with all things from the point of view of intersubjective communication. It was considered as the original and general medium of communication. The rationalist trend in philosophy, which Descartes emphasized, had to encounter several oppositions. Descartes' polemics against Locke and other empiricists initiated his drive towards a scientific and indubitable inquiry. Husserl likewise reacted strongly to the contemporary works of his times before his genius could unfold the phenomenological method.

The phenomenologists arrived at their standpoint of transcendental subjectivity due to their opposition to the following schools of thought: (*a*) Reductionism (b) Scientism of the positivists (*c*) Realism and Idealism as briefly outlined below:

(*a*) Reductionism was a method that dealt with 'nothing-but-attitude' in philosophy. Psychologism is just one kind of reductionism which tried to show that the principles of logic, mathematics, etc. were reducible to psychology. This is illustrated by the sentence of the kind "Logical laws are nothing but psychological laws". The phenomenologists rejected this method as they wanted a 'presuppositionless philosophy'.

(*b*) Scientism, especially with reference to the views of Mach and Avenarius, regards scientific statements as premises in philosophical arguments. This was not considered tenable by phenomenologists, in particular, through Husserl who rejected the 'Natural Standpoint' which is defined as that knowledge which begins with experience (*Erfahrung* and remains within experience.

(*c*) According to phenomenologists, empiricism of Husserl and others was an example of phenomenalism. This was a view which regarded the physical objects as well as human beings to be mere collections of observable sensory properties. This was not accepted by them, as they attributed this viewpoint to a not very careful examination of physical objects.

The reaction of the phenomenologists in solving the old problem of abstraction was similar to that of Meinong in denying that abstract ideas were either ideas in the mind or mere abstractions. In particular, for Husserl, 'abstraction' is *ju a misnomer* for our procedures in coming to apprehend what he calls higher order entities, e.g. numbers, classes, universals, relations and propositions. However, these higher order entities, even if non-actual, are considered to be authentic subsistent terms. Husserl aimed at scientific exactitude. He believed that phenomenology was not only a philosophical but a scientific method. This, according to most thinkers, appears doubtful but then we think that we must not overlook the fact that Husserl worked with a spirit of scientific detachment and contributed fruitfully to German phenomenology for the growth of existentialist thought.

Phenomenclogy originated with Brentano (in 1871) when he published a book called *Psychology from an Empirical Point of View* in which he outlined a programme of descriptive psychology relying on the notion of intentionality. According to Husserl, phenomenology would not have begun but for Brentano's efforts to convert the scholastic notion of 'Intentionality' into a descriptive root concept of psychology. It is of interest in the context of this paper to note that Brentano raised the question regarding the essential difference between the objects of empirical psychology and the objects of other kinds of empirical sciences. This is exemplified by the difference between the method of study of birds by ornithologists and the study of thoughts, emotions, etc. by psychologists. The phenomena with which psychologists are concerned are 'ideas' which refer to not what is observed (or conceived) but the act of doing so (perceiving). Husserl did not accept this distinction between the psychological and physical. According to him, there was a parallelism between the structure of a subjective act and its referent. For instance, in logic Husserl wished to study both the subject's immediate experiencing of deducing and also at the same time the logical laws which enable a valid deduction to be made. Husserl did not wish to distinguish between the act and the object (cogito and cogitatum) which must both be described.

In conclusion, we note that the upshot of the phenomenological reduction or 'putting the world in brackets' (*Aufhebung*) would be to show how the ordinary objective world was dependent upon the perceiving and thinking subject (transcendental subjectivity).

2. Phenomenology in Physics

The development of the so-called microphysics has followed a certain pattern in which the thread of phenomenology is clearly discernible. For our purpose, we shall define phenomenology as an approach in which physicist (mostly theoreticians) uses either the empirical results themselves obtained in the laboratories or the ideas that accrue from them in advancing a theory which

resulted from a previous breakthrough. As mentioned in the introduction, it was found necessary to take the recourse to the phenomenological approach, because the sudden impulse the theory got from the breakthrough spent itself during the vigorous development of the theory immediately following the breakthrough with the inevitable result that the progress slowed down perceptibly giving the feeling of uneasiness to its practitioners. To add to their discomfiture, a number of new experimental results surfaced which defied explanation in terms of existing theories. It was found that no amount of extension within its framework led them anywhere, but rather they tended to run in circles. However, new as well as some old experimental results seemed to give clues to the possible advance, though, sometimes requiring extension outside the ambit of the present theory.

The practice of phenomenology is the key to the advance of the stalled theory in the intervening period between two successive breakthroughs. As it usually happens, experimental results, old and new, provide all the material required for such a practice. The modern microphysics (physics of atoms, molecules, nuclei, elementary particles and their interactions) has its beginning through the studies of spectra produced by hot bodies. The line-spectra, emitted by chemical elements in gaseous form, when excited by a heat source like flame or by passing an electric discharge through them at low pressure and the continuous spectrum by solid bodies, when heated to high temperatures, were the objects of intense studies by physicists in the last century. The latter is called the black body radiation when produced under certain conditions which need not concern us here. The discovery that, while the former is characteristic of the chemical element producing it, and that there is a strict one-to-one correspondence between the structures of the line-spectra and those of the chemical elements producing them, the latter is independent of the material of which the solid body is made and is a function of temperarure only. These observations led physicists along two different paths which developed independently until they merged in 1913 when Bohr made a spectacular breakthrough in the understanding of the hydrogen spectrum.

It is well known that the struggle to understand black body radiation led to another remarkable breakthrough in the form of Planck's law of radiation. However, the development of the study of black body radiation in the intervening period was carried on by the physicists under the assumption that the laws of phenomenological thermodynamics are applicable to radiation as well. Boltzmann provided a mental construct of the so-called radiation engine on the model of Carnot engine in classical thermodynamics, in order to obtain a mathematical expression $u = \sigma T^4$ for the energy density 'u' of the black body radiation being proportional to the fourth power of the absolute temperature with σ known as Stefan's constant. Considering the 'adiabatic' expansion of the black body radiation in an enclosure in the fashion of a gas, Wien succeeded in deriving a formula which could explain the shorter

wavelength (or higher frequency) part of the experimental result regarding black body radiation. Rayleigh and Jeans used classical thermodynamical equilibrium laws, and, considering the radiation in the enclosure to behave like standing waves on a string fixed at both ends, obtained an expression which could explain the longer wavelength (or lower frequency) part of the black body radiation spectrum. It will be noticed that throughout the period of the struggle to understand black body radiation, earlier results of phenomenological thermodynamics were revoked to advance the elucidation of the nature of the black body radiation. These attempts led to very fruitful results which, however, were inadequate to understand all the features of this phenomenon. Nevertheless, these approaches played an important role in getting a deeper insight into the nature of things and ultimately enabled Max Planck to pave the way out of this impasse. This was the birth of quantum physics.

The other path mentioned in the previous paragraph which followed the discovery concerning the line-spectra was equally tortuous. Though there was a suspicion that the structure of line-spectra is intimately related to the atomic structure of the elements, no clue was available from which to forge ahead. More than a generation of physicists strove for deeper understanding of the regularities in the distribution of spectral lines of various elements. As soon as dependable wavelength measurements became available, attempts were made to reason out the analogy between the overtones in acoustics to obtain harmonic relations in the spectrum of the given element. Though this was proved to be fruitless, it led to some other minor discoveries. Advances in the techniques of observation led to the discovery of doublets and triplets in the spectra of alkali elements like sodium. Careful analysis of these showed that the differerence in frequency between the components of a multiplet (doublet or a triplet) in a particular spectrum is the same for all similar multiplets of lines in that spectrum. This was not unlike the occurrance of harmonics in accoustical notes.

The real advance in our knowledge of spectral formulae dates from a remarkable discovery of Balmer in 1885 that the wavelength of the nine then known lines in the spectrum of hydrogen could be expressed very closely by the simple empirical formula for their wavelengths

$$\lambda = b\frac{n^2}{n^2-4}$$

where b is a constant and n—3, 4, 5.... The agreement between measured and computed values was remarkable! Further, Balmer could predict a number of features discovered later, using his formula. Further investigation led to the discovery of the Rydberg-Ritz empirical *combination principle,* the use of which made it possible to predict a whole series of lines of spectra of various

elements, and these were, indeed, discovered experimentally. The phenomenological approach, so far adopted, had produced a lot of sophistication in the study of spectra; it was possible to relate various components in the spectrum of an element, and predict new features in it. Enormous data, collected by the experimentalists, could be organized into recognizable patterns and used to study physical and chemical properties of matter. The study of atomic spectra was extended to molecular (band) spectra incorporating the same phenomenological approach. However, in spite of all the sophistication acquired by the phenomenological theory of spectra in terms of its complexity and its predictability, it was thought to be incomplete as it could not relate in a satisfactory manner to the structure of atoms and molecules which produce these spectra. The theory, developed so far, remained a collection of facts, though related through the phenomenological scheme, so assiduously worked out by a generation of physicists.

The next breakthrough came, not through further more intense study of spectra, but through an experiment in nuclear physics, namely, the scattering of α particles by matter. The results of this experiment led Rutherford to put forward the nuclear model of the atom. This was a clue Bohr was looking for. In addition to the idea of the nuclear atom, he exploited the recently developed hypothesis of quanta and their role in energy transfer. These clues were not enough for the breakthrough to take place. Bohr had to break away completely even from the well-entrenched classical electromagnetic theory in postulating the concept of stationary orbits in which the electron revolves without radiating electromagnetic energy. Suddenly everything became very clear. Balmer formula, Rydberg-Ritz combination principle and a host of other results followed from his theory. The greatest achievement was that now one could relate spectra to the structure of substances which produced them. Looking at the spectra people could conjecture about the structure of atoms and molecules. Was this the end of the road? It was by no means the end! Soon enough, it was realized that spectra of only hydrogen were amenable to the analysis of Bohr, but the theory failed even for the next simplest atom, helium. Besides, the theory had nothing to say about the intensities and polarization of the spectral lines emitted. The success of Bohr's theory was, indeed, dazzling; a lot of advances were made in his theory by a number of other investigators to fit the experimental facts, but soon even Bohr realized that this theory is only a prelude to something complete yet to arrive. The march towards this goal began. This impulse of the breakthrough had spent itself, and a recourse to phenomenology was again inevitable. The development of the theory continued until a sudden breakthrough in 1925 occurred in a short period of only twelve years. During this time the phenomenology took the form of a fruitful idea, that of the Correspondence Principle of Bohr, which guided a talented group of young physicists towards the next breakthrough which was made by Heisenberg and soon after by Schrödinger. It may, however, be noted that Heisenberg's contribution closely followed the

path chalked out in this paper, but Schröndiger's came as a surprise to all the observers of this game, although a path was indicated towards this development by de Broglie's hypothesis of wave-particle duality.

We could discuss the 1913-25 period between these two breakthroughs in detail with regard to the role of phenomenology in the development of the quantum theory of the atom, only at the risk of lengthening this paper to unmanageable size. Suffice it to say that this kind of development we described above regarding recourse to phenomenology in bridging the gap between the two breakthroughs is not confined to the fields we have mentioned, but it is our conviction that it is common not only to physics but other branch of science too. We have given the examples cited above, only because the course taken by them is so glaringly clear for all to behold.

3. Phenomenology in Philosophy

In this section, we shall discuss the nature of phenomenological investigations in philosophy. As pointed out in the introduction. Husserl and other phenomenologists rejected the natural standpoint that defines natural knowledge as the knowledge which begins with experience (*Erfahrung*) and remains within experience. Hence in the theoretical position which is called the natural standpoint, the total field of possible research is indicated by a single word 'the World' (*das Welt*). In this position, the concepts 'true being', 'real being' and 'being in the world' are phrases whose meanings appear to coincide. Sciences of experience are sciences of facts, that is, they posit our experiencing as having a definite spatio-temporal experience. However, the theoretical position of the standpoint is limited due to the contigency factor, which is called 'matter of factness' (*Tatsachlichkeit*). The contigency factor is not a mere connection between spatio-temporal facts but has the character of essential necessity and therewith a relation to essential universality. This is due to the fact that an individual object is not simply and quite generally a 'this there' or something unique, but it has its own proper mode of being and its own supply of essential predicates which must qualify it. Besides whatever belongs to the essentials of one individual object can also belong to another. Hence the broadest generalities of essentials tend to 'delimit regions' or 'categorise individual objects'.

Most phenomenologists, Husserl in particular, thought that experiences must be analysed in intuition in their essential generalities and not as experiences of real occurrences in the natural world. Empirical insights can be transformed into essential insights (intuition)—a possibility which is itself not to be understood as empirical but as essential possibility. The object of such an insight is the corresponding pure essence or '*Eidos*'. For Husserl, the *Eidos* is an object of new type. Just as the datum of empirical intuition is an object, so the datum of essential intuition is pure essence. Essential intuition is a consciousness of something, that is, of an object, a something 'self-

given' within it, but which can be presented in other experiences. The *Eidos* can not only be exemplified intuitively in the data of experience and the data of preception, but also in the mere data of fancy (imagination). Hence, with the aim of grasping an essence itself in a primordial form, we can set out from corresponding empirical intuition, but we can also set out from non-empirical intuitions, that is, those that do not apprehend 'sensory existence'.

The setting out from non-empirical intuitions was put forward by the phenomenologists, because they emphasized that this world is not there for an individual as a mere world of facts and affairs but as a world of values, a world of goods—a practical world. The complex forms of the manifold shifting spontaneities are related to this kind of a world. The phenomenologists emphasized that when one is consciously awake, one is presented with a world which appears to be constant, that is, remains the same for the individual. This argument prompted Husserl to return to the 'Things Themselves'. By this, he meant those meanings attached to objects which are not connected by remote, confused, figurative intuitions but obtained by the *Eidos* of the objects. For this Husserl proposes the Phenomenological Reduction Method (*Epoché*). The Phenomenological Reduction Method can be understood as the description of phenomena only after we have 'bracketed existence' (*Aufhebung*), namely, suspend our belief in the existence of objects. This implies that we do not view the object, say X, as the world presents it in order to grasp its Eidos. In order to grasp the Eidos he suggests the 'free imaginative variation method'. This method involves a preliminary description of the object X and then the transformation of the description by adding and deleting predicates contained in the description. With each addition and deletion of the predicates we investigate whether the amended description can still be said to describe an example of the same kind of object X. In this way we arrive at the necessary and invariant features of the object X, which are considered to constitute the Eidos of the object X. The free imaginative variation method outlined above requires a special kind of thinking called 'reflective thinking'. The result of this reflection is not a factual statement or an empirical generalization but a statement about the necessary conditions for any object being an example of the sort of things considered in our reflection.

It is interesting and important to note that phenomenologists believe that all activities, which are reflectively described and clarified after bracketing existence (*Epoché*), are intentional activities. The Theory of Intentionality was an attempt to modify the Cartesian and Lockian theories which stated that 'what I am aware of, when I am aware of something, must always be an "idea" '. The modification began with the distinction between the act of perceiving an object and the object itself, that is, the distinction between the idea and the ideatum. It was denied that what an 'act is of' is itself 'the act', for they believed that 'contents' are not real part of mental functioning, nor can all possible contents be lodged in the actual world of space and time. This principle of intentionality leads the phenomenologists to reject the

Cartesian question: given only 'our clear and distinct ideas', how do we relate the content of our mind with the non-mental object outside the mind? They refused to distinguish between the contents of the mind as discrete examinable slices of experience and the objects to which the consciousness is directed.

In conclusion, Husserl rejects the natural standpoint as he thinks that the natural attitude is embedded in the contigent world of space and time. According to him, this was necessary before philosophy could be given a scientific form. In view of the above discussion presented by the phenomenologists, some objections can be mentioned against their position.

Husserl appears to separate 'essence' completely from the 'existence' of an object on account of his rejection of the natural standpoint. It is doubtful whether the mind of man can hold 'eesence' before itself, totally independent of actual and mental existence, for essence appears to be related to mental existence in general. Husserl appears to make the error of reading into 'essence' that what belongs only to the 'mental existence of essence'. Secondly, if one were to question the validity about the way in which philosophy is supposed to master this area, namely, either by description or by experience or by both. The first two objections do not seem tenable, as there may be obviously an experience which is never described and a description for which there is no experience. Thirdly, there is conclusive proof of the 'inner sense' with which we could 'look at' what Husserl calls the 'acts'. The problem of elucidating 'eidetic intuition' remains as the riddle of inner consciousness and does not appear to have been solved completely. The assumption that one can see with a mental eye (the inner sense), the essences and their interrelations appears vague. Wittgenstein has mentioned that he does not believe in such a mental eye, and even if he had one it would be of no use to philosophy as a communicative enterprise. Indeed, the authors think that Husserl has presented phenomenology as an egocentric metaphysics, the reason being that in turning away from the naive performance of an act of measurement to the attitude of reflection (observation), the former necessarily changes. This is exemplified in quantum mechanics.

4. Comparative Study of Phenomenology in Physics and Philosophy

Observing the role of phenomenology in the development of physical theories outlined in section 2, it would appear that phenomenology would play a similar role in the development of philosophic thought. However, we are in for a surprise when we delve into the history of philosophic ideas discussed in section 3 that phenomenology has a methodologically different role. This is due to the fact that one cannot rule out the difficulty of communication of one's results to others. The available expressions for the basic findings in natural sciences are adapted to the natural world, subject to a natural thesis which Husserl wants to suspend by bracketing existence. It appears that

Husserl considers the terms like sensation, perception and presentation as ambiguous. It does not appear possible to describe the acts of meaning (measurements in natural sciences) without reference to the objects (events in natural sciences) meant. For we know that philosophic experiences are meant to be internal experiences, that is, of a sphere private to the subject (observer). Then, how are objects of such an experience to assume any meaning? Also, as described above, natural scientists need to communicate their results of measurements with each other. How can this be possible if one rejects the 'natural standpoint' completely and relies on the 'inner eye'? Besides, in terms of what descriptions (filters) do observations (measurements) appear to the subject (observer)? There is no language original to the subject which could filter such an experience. The only language to supply this need appears to be ordinary language. However, ordinary language is essentially public, and may not be able to filter a private experience. Perhaps it is only possible in the realm of poetry and art.

It is interesting to note the reasons of disparity between phenomenology in physics and philosophy by considering that the description of a phenomenon (event) differs considerably on account of the following points:

(*a*) A physicist continues to work in a space-time framework unlike the phenomenologist in philosophy whose observation is not totally confined to a laboratory frame as he rejects the 'matter-of-factness' aspect in order to return to the 'things themselves'.

(*b*) A physicist cannot easily make use of the 'inner consciousness' as he has to communicate his results to others in definite terms of measurement, whereas the phenomenologist in philosophy is content to rely on 'inner consciousness' in order to arrive at indubitable knowledge.

(*c*) A physicist cannot afford to suspend the 'natural standpoint', for, as discussed in section 2, the development of further discoveries did rely on results of prior discoveries in allied fields till a breakthrough occurred, whereas, as discussed in the section 3, the suspension of the natural thesis is a basic tenet of the phenomenological reduction.

There appears to be some kind of essential similarity, not on account of methodological approaches but on account of the similarity in the manner in which the breakthroughs occur. The link can best be seen if we realize that a certain amount of reliance is required on the philosophic concept of phenomenological reduction (discussed in section 3) before a breakthrough is achieved, for if physicists did not even temporarily suspend the 'natural thesis' and look at things afresh, then important new theories may not have emerged. If Einstein, perhaps, had not suspended temporarily the classical view that the time interval is independent of the state of motion of the observer, then he may not have been able to construct a spatio-temporal framework necessary for the special theory of relativity resulting in a breakthrough from Newtonian physics. Possibly, if Heisenberg had not suspended the

natural thesis that position and momentum can be simultaneously measured with arbitrary accuracy (i.e. with standard deviations of the results of their measurements equal to zero), he may not have arrived at the breakthrough resulting in the formulation of the uncertainty principle. One may be able to give many such suggestive examples of breakthroughs in physics which might have relied on a temporary suspension of the natural standpoint. In ordinary language we could interpret this as doubting certain tenets about existing theories and, then, investigating further by addition or deletion of certain other tenets, arrive at a new theory (reflective thinking on the free variation method). The same thoughts appear in Descartes' *Methodic Doubt* in the first meditation where he proposed to call into question everything which he had been taught or he had assumed to be true in order to find clear and distinct ideas. To a great extent, this overlaps with the phenomenological reduction of Husserl.

Scientists like Poincaré stated that the fundamental principles themselves are 'free creations' of the human mind, and that they are connected by physical interpretations with realm of observations. Schlick, in particular, regarded all concepts, which occur in the principles of science, as elements of our physical reality and not only those to which sense observation can be directly assigned. Hence we note that if free creations of the human mind are to be linked with indirect (subconscious) absorption of reality, then perhaps the phenomenological attitude of philosophy does not appear completely untenable. If indirect observation, interpreted as subconscious absorption of the human mind, was considered as the 'subjective aspect of the empirical experience in physics', then, perhaps, one can review Husserl's phenomenological approach in a different light.

In conclusion, the authors think that a deeper study of the causal theory of mind in philosophy would elucidate better the link between causality and consciousness which could explain the difference between various phenomenological approaches in philosophy and physics. The reason for this, we think, is that the subjective and objective aspects are not two separate compartments, and the dividing line between them is not clear-cut due to different contextual frameworks. Modern science has shown that the nature of any system cannot be discovered by dividing it into parts. The reason suggested is that certain properties regarding the inter-link between them is lost. As a suggestive proposition to make a link tenable between Husserl's standpoint in phenomenology and the general standpoint of phenomenology in physics, we note that our approach to the world is governed by the rules of meaning and expressions of selection and elimination in perception and comprehension. 'Though we may be completely involved in this approach, there is nothing necessary about the logic of the approach itself. Not only is it modifiable but even *raison d'etre* can be revived'

The authors agree to the above challenge to the logic of the approach mentioned in the above quote. We think that a deviant logic,[2] which deals

differently with various 'rules of thought' in different realms of human consciousness, would enable us to meet the 'communicative necessity' of phenomenological reduction. The public language, subjected to this new logic, might enable us to describe (filter) a personal experience or a phenomenon in physics.[3]

Notes

1. Thomas Kuhn, *The Nature of Scientific Revolution* (Cambridge, Mass.: Harvard University Press).
2. Susan Haack, *Deviant Logic* (Cambridge: Cambridge University Press).
3. Filita Bharucha and R.V. Kamat, 'Deviant Logics for Quantum Mechanics' (accepted for publication, *Indian Philosophical Quarterly*).

Notes and discussions

HUMEAN BELIEF

A problem arises on two levels when making the following distinctions: fact or fiction, truth or falsity, and probability or improbability. The first-level problem arises because man is required to make such distinctions as the basis for his activities unless it is possible to be a pure sceptic. It will be assumed in the following that we do make distinctions as the basis for our activities. The second-level problem is: what is the method or procedure by means of which we make such distinctions? That is, how can we explain that ability which results in our decisions to operate as if some information is probable or possible, or improbable. Even more specifically, how do we differentiate between fact and fancy? The following two statements are offered as illustrations:

(1) The Mississippi river is flowing towards the Gulf of Mexico.
(2) There are many icebergs in the Gulf of Mexico.

It goes without saying that most readers would assent to statement one and dissent from statement two. Furthermore, this process of differentiation was instantaneous and probably without an awareness of reflection on the part of the reader. The following will be an attempt to explicate the epistemological process which yields such a differentiation.

Hume's doctrine of belief is offered as one answer to this second level problem. It may be that this significant doctrine has been overlooked, and by the following restatement its relative adequacy as an epistemological theory will be recognized.

Some philosophers in Hume's day, Francis Hutcheson, for example, held that beauty and goodness are based on one's sentiments. These two supreme values were thought to be relative because they depend upon or spring from one's feeling or sentiment. As man makes value judgements, it was thought, the feeling of the one making the judgement played an integral part. Whether or not a value judgement could be made by one without feeling remains a vexing question. Quite obviously, such a judgement could be enunciated without feeling. It seemed to Hume that if feeling or sentiment was the inward state from which sprang our value judgements, then it might be applied to another area as well, that concerning truth and falsity.[1]

Before giving an exposition of Hume's doctrine of belief, the problem with which Hume was confronted should be noted. This will not only show the philosophical context within which the doctrine arose, but may also be helpful in assessing the adequacy of Hume's answer.

Hume has more than one classification of the knowable. In the *Treatise*, after some discussion of 'proof' which is a strong probability, there is the threefold division: knowledge, probability, and possibility. In the *Enquiry*, there is the twofold division: relations of ideas and matters of fact. The 'knowledge' of the *Treatise* becomes the 'relations of ideas' in the *Enquiry*. This includes the demonstrative a priori knowledge generated within algebra and arithmetic, which knowledge Hume thought was certain. These 'relations of ideas' represent a fraction of what we know. Hume, the empiricist, was left with the problem of explaining the less-than-certain nature of the remaining knowledge which constitutes the preponderance of what we know. Since it is a posteriori, it cannot be universal. Moreover, underlying all of this 'imperfect knowledge' is the presupposition—and that it must remain—concerning the uniformity of nature, which uniformity includes the three natural relations of resemblance, contiguity, and causation. These three are the bases of all knowledge, both inductive and demonstrative, and are presupposed. Since induction, by its nature, cannot yield certainty nor universality, we are left with all knowledge which is a posteriori as being relative. It was this context which gave rise to Hume's doctrine of belief.

This particular doctrine appears to be peculiar to Hume: none of his immediate predecessors in British empiricism espoused such a doctrine. Locke, Berkeley and Hutcheson contributed significantly to Hume, but the doctrine of belief as set forth in the *Treatise* and the *Enquiry* cannot be found in their writings. Obviously, it is possible that seventeenth-and eighteenth-century authors, both philosophical and non-philosophical, may have been Hume's source, but, heretofore, they have remained unidentified. At least Hume thought his approach was novel. He notes that his analysis of the mind's activity in being persuaded of truth had 'never yet been explained by any philosopher'...[2] Thus, he was at liberty to set forth his own 'hypothesis'.

Hume spends twenty pages in the *Treatise*[3] giving an exposition of belief, and then returns to it repeatedly for another forty-five pages. Not being satisfied with this, he added five more pages to the Appendix[4] of the *Treatise*. Four pages deal directly with belief in the *Enquiry*.[5]

Briefly stated, Hume's doctrine of belief is a certain feeling or sentiment which depends not on the will, and which alone distinguishes fact from fancy.[6] Hume places belief in apposition to opinion and defines both as 'a lively idea related to or associated with a present impression'.[7] Belief is not a new idea at all, but only a more vivid conception of an idea. It is experienced in the manner, not the matter, though not possible without a present impression. Hume uses various words to describe the peculiar manner of belief: a stronger, firmer, more vivid, or more intense awareness of the idea.

Belief is integral to Hume's doctrine of causation. When one sees an effect, which can be anything, he is reminded of what has been repeatedly associated with this effect and which preceeded it in time. The more extensive

is one's experience, the more 'lively' is the sentiment concerning the cause. Explained on the basis of the above definition, the effect constitutes the present impression, and the recall of the cause constitutes the idea. Our 'fancy' relates the present impression (effect) with the idea (cause), and the result is a felt-sentiment. Concerning this sentiment which causes us to assent to the cause, Hume notes: 'Tis certain, that the belief super-adds nothing to the idea, but only changes our manner of conceiving it, and renders it more strong and lively.'[8]

The occurrence of belief is based on custom,[9] which in turn is the logging of experience. Thus, when we see or hear or read a statement (present impression), if the words are meaningful and if what is predicated of the subject has been experienced, then we become aware of the automatic feeling or sentiment which wells up within and causes us to assent to the statement. In the *Enquiry*, Hume notes that belief cannot be commanded at pleasure, but must arise naturally within a particular situation. No time is allowed for reflection in belief, as he states in the *Treatise*: 'As the custom depends not upon any deliberation, it operates immediately, without allowing any time for reflection.[10] The sentiment which constitutes belief is similar to other sentiments.[11] In both the *Treatise* and *Enquiry*, the imagination alone cannot produce belief. This means that the memory plays the more significant role in causing belief, though it is reinforced by the imagination.[12]

Since the differentiation between impressions and ideas is primarily that of vividness, though the former always precedes the latter in time, and since belief is the experiencing of a vivid or lively idea related to a present impression, it follows for Hume that belief amounts to a vividness or force which approaches the related impression. In this vein, he writes: 'Belief, therefore, since it causes an idea to imitate the effects of the impressions, must make it resemble them in these qualities, and is nothing but *a more vivid and intense conception of any idea.*'[13] He observes that this may serve as an additional argument for his doctrine.

After surveying the entirety of his *Treatise* and while writing the Appendix, Hume again raises the problem of belief. He poses the question whether or not belief is a new idea which is joined to an impression or whether it is a peculiar *feeling* or *sentiment*. He offers two arguments to refute the first possibility. Then he notes that belief is a feeling or sentiment, different from the reveries of the imagination, and which 'must arise from certain determinate causes and principles, of which we are not masters'.[14] Belief is dependent on the frequent conjunction of the idea, which becomes more vivid, with the present impression. Though he does not pursue this line of reasoning, it seems consistent to point out that the more experience one has of the conjunction of a certain impression with the attendant idea, the more intense would be the feeling and, therefore, the more factual it would be. Such an implication will be noted later.

In the Appendix, Hume notes how belief operates in enabling the in-

dividual to differentiate between the actual events of a journey and the 'loose reveries of a castle-builder'. The mind has a firmer hold, or more steady conception of what it takes to be a matter of fact, than of fictions.'[15] Since we are aware of this procedure, he sees no reason to look any farther for the cause of it. In fact, he is at a loss to explain the physiology of the mind in producing belief, and is forced to follow the procedure of appealing to everyone's experience to verify his view. In such a hortatory mood, Hume suggests: 'An idea assented to feels different from a fictitious idea, that the fancy alone presents to us: And this different feeling I endeavour to explain by calling it a superior *force*, or *vivacity*, or *solidity*, or *firmness*, or *steadiness*.'[16]

Something of the efficacy of belief is noted in the Appendix. After admitting the inability to explain the feeling which constitutes belief, Hume points out that in philosophy one cannot go farther than assert.

> "...that it is something felt by the mind, which distinguishes the ideas of the judgment from the fictions of the imagination. It gives them more force and influence; makes them appear of greater importance; infixes them in the mind; and renders them the governing principles of all our actions."[17]

After an exposition of Hume's doctrine of belief, it now seems appropriate to note some of its implications. One implication is that, for Hume, truth becomes more certain as one's experience is extended. Applied to the above illustration of the two utterances, utterance one would not result in a very vivid or intense feeling above number two when viewed or heard by a child or a foreigner. It is only after experience that the observer feels welling up within a strong sentiment upon viewing number one and a noticeable lack of such upon viewing number two. We may safely infer that such is the case with all matters of fact.

Another implication is that, since truth depends on sentiment or feeling, truth fluctuates as does one's sentiment or feeling. Even though this may run counter to the prevailing view of truth, nevertheless it follows from Hume's doctrine. Hume was very much aware of this implication, and, in fact, mentions it as one of four types of 'unphilosophical probability' in the *Treatise*.[18] From his choice of words used in evaluating this implication, it is not clear whether he was in favour of such an implication or was nonplused by it. Nevertheless, in spite of this implication not being received at all by 'philosophy', it follows from Hume's doctrine of belief. An implication from this implication, the latter not drawn by Hume, is that the commonly held meaning of truth as being absolute, certain, and unchanging needs radical modification.[19] It should be remembered that Hume devised and applied this doctrine of belief not in the disciplines which generate demonstrations and certainty, such as algebra and arithmetic, but in all matters of fact which are constitutive of a posteriori probabilities.

Thus, Hume's doctrine of belief provides for the differentiation between

fact and fancy, and between probability and possibility and impossibility; it is consistent within empiricism; and, at the same time, it makes truth relative. This last point was aptly stated by Hume: 'Thus all probable reasoning is nothing but a species of sensation. 'Tis not solely in poetry and music, we must follow our taste and sentiment, but likewise in philosophy.'[20] A common reaction is that, if some doctrine results in truth becoming relative, then the doctrine must itself be mistaken, *i.e.* untrue. A way out of this dilemma may seem to be offered by the doctrine in question: does the one rejecting Hume's doctrine of belief with its resultant relativity of truth experience a sentiment or feeling concerning the factuality of Hume's doctrine? If there is no sentiment concerning the correctness of Hume's view and there is a considerable feeling concerning some alternate method of differentiating truth from falsity, then on Hume's own grounds one would accord the greater probability of correctness to the other method. Yet, it is patently illogical to arrive at a conclusion by means of a procedure which is in question or which has been rejected on other grounds. Thus, Hume's doctrine of belief cannot consistently be employed by those who reject his method.

If Hume's doctrine of belief is rejected,[21] it is incumbent upon the rejector to set forth a more adequate doctrine of determining fact from fancy, since we are pressed by nature to make decisions based on the former. It is not acceptable to judge this method as inadequate, because it is measured against deduction which results in certainty, as Hume plainly concedes.

NOTES

1. This doctrine found its fullest exposition in the *A Treatise of Human Nature*, L.A. Selby-Bigge (ed.), (Oxford: The Clarendon Press, 1888), though originally published in 1739, bk. I. pt. III, and in *An Enquiry concerning the Human Understanding*, L.A. Selby-Bigge (ed.) (Oxford: The Clarendon Press, 1902) though originally published in 1748, 2nd ed., Sec. V. It is possible that Hume arrived at this doctrine as a teenager, since the *Treatise* was begun when he was twenty-three years old and completed when he was twenty-six. E.C. Mossner, in his definitive biographical work on Hume entitled, *The Life of David Hume* (Austin: University of Texas Press, 1954) indicates that the formulation of this doctrine by the teenage Hume and an awareness of its implications may have contributed to the teenage Hume's case of 'vapours'.
2. *Treatise*, Bk. I, pt. III, Sec. VIII, p. 97.
3. *Ibid.*, pp. 94-123.
4. *Ibid.*, pp. 623-37.
5. *An Enquiry concerning the Human Understanding*, pp. 47-51.
6. *Treatise*, pp. 153, 624.
7. *Ibid.*, p. 96.
8. *Ibid.*, p. 101.
9. *Ibid.*, p. 102. In the *Abstract*, belief is produced by habit.
10. *Ibid.*, p. 133.
11. *Enquiry*, p. 48.

12. The multiple roles of the imagination is an interesting problem in Hume, but is only recognized here.
13. *Treatise*, pp. 119-20.
14. *Ibid.*, p. 624.
15. *Ibid.*, p. 626.
16. *Ibid.*, p. 629.
17. *Ibid.*
18. *Ibid.*, p. 143 ff.
19. An interesting project would be to trace the sources of the commonly held view of truth as that which is absolute, certain and unchanging.
20. *Treatise*, p. 103.
21. Though Hume was satisfied that his doctrine of belief was the correct approach, and that he had satisfactorily explicated it, he did not expect to win many proselytes—and his expectation has been proven correct. cf. *Treatise*, p. 118.

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IS FALLIBILISM SELF-REFUTING?

There are different versions and degrees of philosophical doubts about the truth and validity of knowledge about the world (since nobody doubts the validity of trivial truths like tautology or/and mathematical proofs). A stronger version of such doubt leads to what is known as scepticism—a position which seems to be self-refuting to many philosophers for good reasons. A weaker version[1] of such philosophical uncertainty which may be called fallibilism, however, raises a much diluted kind of doubt about the validity and truth of knowledge. The position is best exemplified by Karl Popper to whom all knowledge is *fallible*, for we can never be sure about the truth of our statements, i.e. theories (to Popper *only* scientific knowledge can be regarded as objective and worthy of epistemological analysis); for although all theories are approximations to truth, the latter can never be known in any absolute sense. We may not recognize *truth*, he says, even when we have already achieved it just like a climber might not have *known* that he has reached the summit after he has reached it. In fact, Popper calls theories as 'conjectures' aiming at truth, but never reaching it completely.

Is this position self-refuting? In other words, can one consistently claim that he *knows* that he knows only fallibly? The position seems to be problematic. For, fallibilism claims like the sceptics that our knowledge can never be certain; and unlike the sceptics that we *know* that knowledge is fallible. Apart from the further difficulty of claiming knowledge without truth (and also without 'justification'), there is an apparent self-refuting element in this claim. It can be formulated as follows. The fallibilist claims:

(*a*) All knowledge is fallible, i.e. liable to be false
(*b*) I *know* that knowledge is fallible

To maintain his position he has to assert another statement:

(*c*) Although all other knowledge is fallible, at least fallibilism is *true* (for sure).

We see now that (a) itself is harmless but ineffective for the fallibilist unless reinforced by (b). But if so, then he is using a criterion of knowledge which is extra-fallibilistic, smuggled from outside and not found within fallibilism. The latter then cannot itself be a criterion for knowledge if (b) is true. But, then, the fallibilist might reply that it (fallible) is not a sufficient condition but only a necessary condition. But even if 'fallibility' is regarded only as a necessary* condition, there are different kinds of problems, namely, of self-refuting character. The claim of (b) in '*I know*' must also satisfy that criterion, and in that case we should reformulate (b) as

(*b'*) I only know fallibly that knowledge is fallible

and (b) should be equivalent to (b'), since we have only expanded (b) into (b') according to the fallibilist's own criterion.

This expansion, however, leads to grave consequence for the fallibilist, because he now loses ground by his own gun that backfires at him. And (b') surely cannot establish the fallibilist's position. So he needs another premise, namely, the (c) above, which asserts the *truth* of fallibilism. Unless fallibilism is certainly true, the fallibilist cannot claim that all knowledge is fallible. But if fallibilism is certainly true, then the fallibilist's own theory is also encompassed by it. In other words, the truth of fallibilism entails the falsity of the fallibilist's claim.

This indeed is a self-refuting situation, similar somewhat to that which scepticism has to face. But the case is not so bad as it is with the sceptics. For the fallibilist might argue:

(1) Fallibilism entails only the *possible* falsity/invalidity of knowledge and not the outright denial of it. It does not claim that all knowledge is *certainly* destined to be false/invalid but only that there is always a possibility of being so.†
(2) The fallibilist might say as claimed by Popper that fallibilism is a meta-scientific theory and, therefore, the criterion of being fallible does not apply to itself. Fallibilism is not an empirical/scientific theory, it is a theory *about* science or valid knowledge.

*That again involves the oddity of excluding logical and mathematical knowledge from the domain of valid knowledge.

†But one can say, as Ayer has put it very succinctly, that the sceptics do not object to any particular standard of validity but to the very possibility of having any such standard whatsoever. See especially his *The Problem of Knowledge*.

Apparently, fallibilism has an edge over scepticism to some extent because of its weaker claim, but the latter defence can also apply to scepticism in an analogous way. Because one can claim that scepticism is not an empirical theory, its disclaimer about logical validity is not applicable to itself. Moreover, the sceptic at least does not have to face the problem of admitting validity of knowledge without truth which embarrasses the fallibilist.

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HISTORICAL AND SOCIAL EXPLANATION: A NOTE

While natural scientists are primarily concerned with explanation of *natural events*, historians and social scientists are occupied with *human action*, individual or aggregative.

Following Hume and Mill, pro-naturalists maintain that the *underlying* logical structure of commonsense understanding, scientific explanation, and socio-historical explanation is identical. It takes the form of relating the event to be explained—explicandum—to another set of antecedent events—explanans,—which are found to accompany the former in our experience. This regularity-based explanation of Hume has helped many philosophers to answer such questions as '*Why* does *X* happen? and '*How* is it possible that *Y* is produced/brought about by *X*?'

Carl Hempel's theory of historical explanation, based on general laws, is a refined version of Hume's view. It claims, in effect, that explicandum-event is deductively or statistically derived from the conjunction of two sets of explanans: (*i*) *general* statements of laws and (*ii*) *particular* statements describing the initial conditions of the event to be explained. Ordinarily, this form of explanation is known as Covering Law Model (CLM). This is also known as Subsumptive-Theoretic Model (STM).

The success of hard natural sciences like physics and chemistry has often inspired many historians and social scientists to follow scientific method in the field of human sciences. Pro-naturalist philosophers of the Vienna Circle, barring a few exceptions like Neurath, Hans Kelsen and Karl Popper, do not show any first-hand familiarity with history and other social sciences. Their main interest is methodological; they want to show that the method of all cognitive disciplines is essentially the same.

Hempel is aware that historical explanation, found in the books of working historians, do not exhibit exactly what is called CLM. There is a gap between their model and the actual practice of historians and social scientists. What in fact is offered by the latter is *explanation-sketch* and not full-fledged explanation. The incompleteness of causal explanation is due to the well-known character of the laws, used but not necessarily mentioned, and selective use of initial conditions. *Explanation-sketch* is open to further filling-up. It indicates only minimal necessary condition for the production of the explicandum.

Popper, like Hempel, was also, though indirectly, associated with the Vienna circle of thirties. He developed his view in 1934 and Hempel in 1942. Because of its lucidity, Hempel's paper (1942) proved very influential. Historically speaking, Popper may be claimed as the first *systematic* propounder of CLM. But the elements of this view are found in the writings of Hume, Mill and many other pro-naturalist philosophers like Nagel and Braithwaite.

From Vico and Hegel has emerged another model of socio-historical explanation. It has been characterized in different ways, viz. 'humanist', 'idealist' and 'narrativist'. The main point of this view is that social events, rightly analysed, turn out to be a cluster of *free human actions* and their consequences, both intended and unintended. Human actions are to be explained in terms of intentions, actions and social pre-suppositions of the concerned human agents. Explanation needs no laws in human sciences. The well-knit texture of the descriptive or narrative statements is what we need. This humanistic view of explanation, often known as Continuous Series Model (CSM), has been elaborated, among others, by Croce, Collingwood and Oakeshott. In the recent years, this view has found favour with William Dray and Charles Taylor. The latter has given it a distinct phenomenological interpretation.

Professor von Wright's view is clearly pro-humanistic and anti-naturalistic. The origin of his view is to be traced back to his interest in deontic logic, i.e. in the explanation of normative actions. Right from the early fifties he is engaged in this pioneering exercise. He has also revived and refined the Aristotelian notion of practical syllogism. His interest in social and historical explanation is a logical outcome of his works in practical philosophy. According to him, social sciences are essentially concerned with actions of human agents who, though socially influenced, are more or less free. In contrast, the events or phenomena with which the natural scientists are pre-occupied are not the direct outcome of human action. They are grounded in laws of nature and are to be explained by them. Why certain events *take place* and others are ruled out are *demonstratively* explainable by well-established and testable laws. In *understanding* human actions we do not need such laws. This is not to deny that human actions and their understanding do not presuppose or prove inconsistent with natural laws. The social scientist wants to show the *intelligibility* of human action. Intelligibility and rationality, not demonstration or proof, engage his main attention.

One of the basic problems of social scientists and historians is posed by the fact that they are called upon to show how certain actions, performed by *other* human beings of near or distant past, can be rendered intelligible. Living in the present they have first to understand and then explain what has

been done by other people at other times and places. I do not find any good reason in wasting time on the question whether there is or not any distinction between *event* and *action*. The ordinary language, used by historians and social scientists, recognizes no hard and fast distinction between the meanings of these two terms. They are interchangeable. However, I do recognize that the notion of *action* is close to that of agency, whereas the notion of *event* to that of *law*. But there is no conclusive argument to deny their interchangeability. It depends upon the context.

The historian is separated by the passage of time from the event to be explained by him. Rightly understood, this problem is a thematic variation of the philosophical problem regarding the knowledge of other minds. Croce and Collingwood, following Hegel, try to solve this problem in terms of what is called *contemporaneity* of the past. 'The contemporaneity of the past' is seemingly a paradoxical expression. The historical past, i.e. reality of other time, other place, and other mind is *understandable* in terms of its availability in the present, to the *thinking* and *imaginative* mind of the past. All history is thought-history. All history is productive-imaginative reconstruction of the past. This view exploits the Vician notion of 'universals of imagination' and the Hegelian notion of 'universals of thought'. These universals are *individuated* in different ways, and at different times and places. It is because of these universals that social scientists and historians can understand not only others' thoughts but also their passions, emotions and imaginations. That is how the present is not culturally separated or alienated from the past. That is how same ideas and sentiments are universally and interculturally shared.

Oakeshott introduces prominently the notion of evidence in history. The past is not understood a priori. He thinks that the identity of historical event is established and de-established on the basis of rationally sustainable evidence. Both Collingwood and Oakeshott argue to show what enables us to understand the past is itself present. Historical evidence is a form of thought, rational thought. In the mind of the historian the past is *re-enacted* or *relived* in the light of present evidence(s). The historian, is thus, concerned with the *living* past and not *dead* past. This living character of the past is what makes it contemporary, i.e. present.

The question has been raised: "How the historian can re-live the past—past of others? Evidences do not, rather cannot, create it anew. The historian has no privileged access to the past events. From the available documents and archaeological remains he may reconstruct the past. But what is the guarantee that this evidence-based past is what 'actually happened". These and other analogous considerations give rise to historical scepticism. The understanding of the historical past remains open to question for ever. This question is sought to be answered in terms of evidence, reliable evidence, new evidence and critically reviewed more evidence. In fact, there goes on an endless *critical dialogue* between the past thought as *expressed* in the event

to be explained and the present thought as preserved in available evidences and their ascertainable rationality.

Historical explanation tries to preserve the *individuality* of the event to be explained. The individuality of the event is due to the peculiarity of the agents concerned and their intentions, choices and actions. By using laws of nature this spirit of individuality can hardly be grasped or understood. Philosophers like Dray and Toulmin argue at length to show how the use of laws in socio-historical explanation is inconsistent with the requirement of the preservation of the individual character of the events to be explained. To understand human action the most important thing is to grasp the *motive* of the agent. An action begs explanation only when its underlying motive and the societal affiliation of the concerned agent are not available. A *concrete continuum* of explanatory statements is required to bring this basic point to light. Wright highlights the importance of discovering motivational background of the actions to be explained.

The point may be clarified by taking an example used by Wright himself. The explicandum is the outbreak of the First World War, whose cause is suggested to be the assassination of Austrian Archduke at Sarajevo in July 1914. To what is due the explanatory force of the (suggested) causal statements? Surely, it is not due to the event's affiliation to, or subsumption under, some laws and their theoretical background. The event, the First World War, is not the immediate consequence of the assassination of the Austrian Archduke. It is preceded by a series of other events following the assassination:

(1) Austrian ultimatum to Serbia;
(2) Russia's excuse for mobilizing its army;
(3) Fortification of the Serbians in their attitude to Austrian threat;
(4) Serbian Government's refusal to comply with the conditions of the ultimatum; and
(5) Austrian's declaration of war.

According to Wright, events indicated in the statements 1, 2, 3, and 4 above are the 'contributory causes' of the outbreak of the war. His analysis seeks to show, *inter alia*, that this explanation does not conform to CLM. What we find is a nexus between an overlapping area of (*a*) a set of singular statements describing the events preceding the war, and (*b*) a set of statements describing the war itself. The former is said to be the cause and the latter its effect. In order to understand this sort of cause-effect relation we need not, in fact, do not, assume law or law-like statements. In this sense, Wright is inclined to characterize socio-historical explanation as *sui generis*.

Still a question perhaps remains unanswered. How does a sequence of events bridge the gap between the explanans and explicandum? This question is somewhat analogous to the one encountered in CLM, viz. 'How does the

set of laws by itself make the necessary subsumption of the event to be explained possible?'

From Wright's account of practical syllogism one might extract a plausible answer to this question. The series of antecedent events work as 'contributory cause' of the event in question, because each of the events brings about a change in the existing state of affairs that is somewhat different from, if not contrary to, the aims and interests of the people whose actions we are called upon to explain. Wright makes use of the Hegelian notion of "*List der Vernunft*" to explain the unintended consequence(s) of intended action(s).

Generally speaking, philosophers pay special attention to physical change or change in the *external* conditions of production of a particular effect or action. But these external conditions or states of affiairs, taken severally or even collectively, cannot exhaustively describe any human situation. In between every two singular descriptive statements we may always have many more such statements indicating details, more details, of the situation. But the external conditions do not ordinarily work as causal constraints. Consequently, situated in every event, human beings have alternative choices, different courses of action, open before them. This openness or freedom, according to Wright, issues forth from the 'inner' phenomena of attitude, will, motive, or intention. These inner phenomena, not subject to general laws or causal forces of nature, show opening-up or freedom of human nature.

But are not actions of historical agents constrained by the goal of history itself? This question reminds one of Hegel's view that there is an inner *logos* common to all events. Wright's model of explanation does not rely on any such *logos*. On the contrary, he, somewhat like Marx, affirms that the chief architects of history are *social* individuals. Individuals as such, i.e. without their social background and pre-supposition, cannot act and interact. The collective outcome of individuals' actions determine the course of history. It is in this sense that historical course is determined from within, and not externally or causally. If one insists on using idiom of causation, we may agree, at best, to say that it is an internal causation. Spinoza used the term 'Immanent causation'. But this sort of causation is not to be confused with Davidson's notion of causal explanation as rationalization. Wright's cause is reason, not rationalization. The historian will be wrong in attributing an 'external' cause to historical agents. He has to try to find out 'internal' reasons entertained, rightly or wrongly, by the agents themselves. According to Wright, the historian's understanding of the agents' internal reasons is not merely an 'empathy'—a psychological technique used for capturing the content of other mind. It is historian's conceptualization of what is there in other minds. In this conceptualization one finds the trace of historians' own interpretation. To use Wright's own words: 'It is a semantic rather than a psychological category.' The crux of Wright's argument is that in the explanation of human action neither the premises of the explanation 'instantiate the antecedent nor the conclusion instantiate the consequent'. The correctness

or otherwise of an explanation is not determined by the nomic connection between the premise and the conclusion. It depends on the correct *interpretation* of actions, i.e. on the understanding of the meanings of the actions performed by the people in question. Interpretative understanding is the heart of social explanation. Basically, Wright's approach is hermeneutic. It is in this connection that one is particularly reminded of the affinity of his thought to the continental philosophy, pro-Heideggerean and pro-Hegelian traditions, as delineated by philosophers like Charls Taylor and William Dray.

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A NOTE ON RYLE'S ACCOUNT OF SELF-KNOWLEDGE

Ryle, in general, recognizes the fact that in philosophy problems arise because of an excessive tendency on the part of philosophers to theorize about even the simplest of human experiences, and that most of such philosophical problems can be solved by an appeal to our day-to-day experience. But, in the case of his treatment of the problem of self-knowledge, he is himself caught in this alluring trap of theorizing. He holds the view that one knows about oneself in much the same way as one knows about otherselves. In the *Concept of Mind* he says:

> Knowledge of what there is to be known about other people is restored to approximate parity with self-knowledge. The sort of things that I can find out about myself are the same as the sorts of things that I can find about other people and the method of finding them out are the same (p. 149).

And about the method of knowing otherselves he states: 'I learn that a certain pupil of mine is lazy, ambitious and witty by following his work, noticing his excuses, listening to his conversation and comparing his performances with those of others' (p. 162). He continues: '. . to discover how conceited or patriotic you are, I must still observe your conduct, remarks, demaneour and tones of voice' (p. 164).

From this it follows that one knows about otherselves by observing their overt behaviour. To the question how one jumps from the observation of the overt behaviour to the conclusion that there are other minds, Ryle replies:

> The ascertainment of a person's mental capacities and propensities is an inductive process, an induction to law-like propositions from observed actions and reactions. Having ascertained these long-term qualities we

explain a particular action or reaction by applying the result of such an induction to the new specimen...' (p. 164).

From this discussion he concludes: '...our knowledge of other people and of ourselves depends upon our noticing how they and we behave' (p. 173).

In what follows I shall try to argue that while it is a fact of our day-to-day experience that we know otherselves (i.e. other minds) through their overt behaviour, we do not know about ourselves (i.e. about our own minds) by observing our behaviour.

The problem of the knowledge of my own mind or the minds of others is the problem of finding out my own mental states or the mental states of others. In actual situations the problem of knowing my own mental states is embedded in such like questions: 'How do I know that I am in pain?', 'How do I know that I am pleased?', 'How do I know that I am jealous?', 'How do I know that I am benevolent?' And the problem of knowing otherselves is embedded in questions: "How do I know that you are in pain?', 'How do I know that you are jealous?', 'How do I know that you are kind?', and the like expressions.

Our day-to-day experience shows that we know the answers of the latter questions (i.e. the questions about the mental states of other individuals) through their overt behaviour including the linguistic behaviour. By overt behaviour I do not mean the short-term present behaviour but the overall behaviour past, present and future. But do we also know the answer to the former questions (i.e. questions referring to my own mental states) through our overt behaviour? Certainly not. In order to know, for example, whether I am in pain, I do not first have to observe my behaviour and then infer that I am in pain. In fact, in this case my being in pain and my knowing that I am in pain go hand in hand. There is no first step leading to the second or vice versa. My being conscious and paying attention to is both necessary and sufficient condition for my knowing that I am in pain. There is no further step required. Similarly, in the case of other mental states—say, feeling jealous, being pleased or being kind and the like—I do not first have to look at my behaviour to know that I am jealous or pleased or kind. I know for certain even before acting or behaving. Wittgenstein in his own gnomic style asks the question with respect to our beliefs. To begin with he asserts a truism, namely: 'One can mistrust one's own senses, but not one's own belief' (*PI*, II, X, p. 180). And then asks: 'How did we ever come to use such an expression as "I believe.."? Did we at some time become aware of the phenomena (of belief)? Did we observe ourselves and other people and so discover belief' (*PI*,II, X, p. 190). A moment's reflection on the problem reveals that it is a basic feature of our lives that the nature and content of our beliefs are known to us directly. There is neither any deductive nor any inductive method involved. This can be illustrated by considering the following episode:

A boy fell down from the deck of ship into the sea. The mother of the boy started crying for help. Everybody on the deck was helplessly looking at the boy who was about to drown. Just then they saw a middle-aged man jumping into the sea. He saved the drowning boy and was lifted into the ship. In the evening a banquet was given in his honour. Everybody praised his courage at the banquet. Later he was asked to speak a few words. He said, 'I shall tell you other things later, first, tell me who pushed me into the sea.'

Now, in this case, this man for certain knew even before and after the action his mental state. He has not to see his behaviour or personality traits to know his mental state.

Ryle's objection to regarding being conscious and being attentive as necessary and sufficient condition for knowing oneself is expressed in the following:

The fact that a person takes heed of his organic sensations and feelings does not entail that he is exempt from error about them. He can make mistakes about their causes and he can make mistakes about their locations. Furthermore, he can make mistakes about whether they are real or fancied as the hypochondriacs do.

Ryle's objection seems to me to be twofold:

(*i*) I can make mistakes about the causes and locations of my pain.
(*ii*) I can make mistakes about my pains being real when in fact they are fancied and vice versa.

Let me take these objections one by one. It is true that my being conscious and paying heed does not make my knowledge about the causes and locations of pain infallible. But these causes and locations are external to pain. To know that I am in pain is one thing, and to know the cause and exact location of it is another. This can be illustrated by taking any example of pain, say, toothache from our day-to-day life. If a person is suffering from toothache he knows *ipso-facto* that he is having a pain in his tooth. This knowledge can not be challenged. No doctor can say that he is not suffering from a pain in his tooth when he says that he does. Doctors after proper scrutiny can say that in fact he is not having any pain in his tooth. He is having a fractured cheek bone which is the actual location of pain. Since the cheek bone is intimately connected with the tooth, the pain whose actual location is in the cheek bone is manifested in his tooth. Moreover, the person who is suffering from toothache can be completely ignorant of the cause of the pain. Doctors have special training to know the causes of pains, so they are experts to know the causes of pains. But it is a fact of our day-to-day life that one cannot make mistakes about the fact that he is in pain, though he may admittedly make mistakes about the causes and locations of pains.

I think, I have replied to the second objection also. I would like to add that the hypochondriacs fancy their pains. But then they are not normal people. They are exceptional cases. They are abnormal. They need treatment. They need our sympathy. Is it not wrong for Ryle to generalize a few exceptional, abnormal cases? Do we conclude from the fact that some money is forged that all money is forged? My answer is certainly not.

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Book reviews

DONALD H. BISHOP (ed.): *Chinese Thought—An Introduction*, (Delhi, Motilal Banarsidass, 1985), vi+484 pages, Rs. 175.

The book under review is a collection of eighteen essays on the development of Chinese thought written by ten master minds. They are Jeff Barlow, Shu-hsien Liu, Fred Sturm, Chung-ying Cheng, Yuk Wong, S.Y. Hsieh, Joseph Wu, Sung-peng Hsu, David C. Yu and the learned editor himself. Of the eighteen essays as many as eight have been contributed by Prof. Bishop.

In its limited span, the book covers the rise and evolution of Chinese thought—religious, philosophical, sociological, economic and political—through centuries right up to the recent period. It is a huge task, for the history of Chinese thought is a balance sheet of a lofty religious, moral and intellectual aspirations of a people that has shaped its way toward the goal of its thought, much of which is just exotic, through centuries of labour and pain. Interestingly, Prof. Bishop himself points this out in his preface when he observes:

> The story of Chinese Thought, beginning with the early people in the upper Yellow River region is most interesting. Chinese civilization is one of the world's oldest, and a tradition which has lasted so long must have enduring values it can contribute to today's world, as the concluding chapter points out.

The history of China may be fruitfully divided under five periods: Ancient Theism, Philosophy and Politics, Buddhism and Taoism, Rationalism and Indifferntism, and Modern.

The first period, i.e. the period of Ancient Theism, covers the history of Chinese civilization from its origin to roughly about 500 B.C. The history of this period is mainly the history of the first three dynasties of the Chinese emperors, and the most remarkable thinker of this period is Confucius to be followed by his personal disciples.

The second period of the Chinese history ranges from 500 B.C. to about A.D. 65. The most remarkable feature of this period is the rise of Lao Tzu, the great Taoist thinker, and of the Taoist Fathers in their struggle against Confucian ideals. It is in this period again that the absolute empires of the Ch'in dynasty and of the first Han dynasty were established. A host

of thinkers are found to have flourished during this period. They are: Yang Chu, Mo Ti, Tze Ssu, Meng Tsu, T'eng Hsi, Shi Chiao, Wei Yang, Kuei-ku-Tze, Yin-wen Tsu, Ho-kuan Tsu, Kuan Tsu, Han Fei Tzu, Lu Pu-wei, Hsuz Tzu, Szu-ma Ch'ien, Tung Chung Tsu, Pan Ku, Ying Shao, Hsüan Yueh and Hsü Kan.

The next period, i.e. the period of Buddhism and Taoism, extends from A.D. 65 to A.D. 1000. Buddhism was first introduced into China in the year A.D. 65. The Confucists grouped in a closed caste as it were, and the Taoists got organized into a political power.

From the political point of view, this was the beginning of the period of the Three Kingdoms. By the sixth century A.D. the dynasties of Wei and Liang came to rule China, and the T'angs appeared in the seventh century A.D. It is during this time that Chinese Buddhism took to a definitive form. The T'ien T'ai syncretism was worked out by Chih Kai and Tu-shun. Remarkable progress in art and architecture was made toward the end of the T'ang dynasty; definite theistic form of Chinese Amidism and the Religion of Pure Earth took shape; and Taoism took the shape of a theistic religion.

The fourth period, known as the period of Rationalism and Indifferentism, extends from A.D. 1000 to A.D. 1911. During this period, China came under the rule of the Sung dynasty (from the eleventh to the thirteenth century A.D.), the Mongol dynasty (from the thirteenth to the fourteenth century A.D.), the Ming dynasty (from the fourteenth to the seventeenth century A.D.) and the Ch'ing dynasty (from the seventeenth century A.D. to the year 1911.)

This period is marked with the rise of Neo-Confucist philosophy at the hands of Ch'en T'uan, Chou Tien-i, Chang-tsai, Ch'eng and Chu-Hsi. Various forms of worship were introduced with the rise of the Mongol dynasty, and the Mohammedans were established in China during this period. This period was also marked with official *chuhsism*, the state worship of Heaven, the official worship of Confucius and the Religion of T'ai-ping.

The Modern period of the Chinese history starts with the rise of Sun Yat-sen who was elected Provisional President of the Republic of China in the year 1911 on the fall of the Ch'ing dynasty. Sun Yat-sen yielded his position to Yuan Shih-kai, and the T'ung Meng Hui which was the party established by Sun Yat-sen became known as Kuomintang. Sun Yat-sen died in the year 1925, and China came under the rule of Chiang Kai-shek, who ultimately had to make room for Mao Tze-tung in the year 1949, when the People's Republic of China was established by the Communist Party of China led by its Chairman Mao Tze-tung.

The learned editor has, however, divided the history of China under three broad periods, viz. the Ancient, the Medieval and the Modern.

Six essays have been devoted to the Ancient Period: (*i*) Chinese Thought before Confucius; (*ii*) Confucius; (*iii*) Taoism; (*iv*) Mo Tzu; (*v*) the Legalist Philosophers, and (*vi*) Menoius.

The section on the Medieval Period has four essays, namely: (*i*) Introduction, (*ii*) Chinese Buddhist Philosophy, (*iii*) Neo-Confucianism, and (*iv*) Wang Yang-ming.

There are eight essays to cover the Modern Period. They are: (*i*) Introduction, (*ii*) Wang Fu-chih, (*iii*) Kang Yu-wei, (*iv*) Sun Yat-sen, (*v*) Hu Shih, (*vi*) Mao Tze-tung and the Chinese Tradition, (*vii*) Contemporary Philosophers Outside the Mainland, and (*viii*) The Chinese Contribution to World Thought.

It is quite apparent from the essays referred to above that, within the short compass of a single volume of 484 pages, the learned editor, with the able help of the team of select erudite contributors, has practically covered the entire gamut of the history of Chinese thought. Not only that. He has linked one chapter with another so ably and remarkably that a background for the understanding of the development of Chinese thought has been provided for the uninitiated readers.

Long traditions of ideas and ideals have just not been thrown overboard, nor is the fact overlooked that China has never shown disrespect for whatever good other systems can offer. Chinese culture is embedded in humanism all through, and this spirit has been endearingly nourished by all Chinese thinkers, not excluding Chairman Mao Tze-tung. Prof. Bishop describes Chinese view of man as a 'teleological one' with the goal of becoming 'fully man' for the realization of 'his inherent humanness or humaneness'.

Credit must be given to the editor for his brilliant handling of the issue. He has not left out of discussion a person like Hu Shih—the most controversial figure in Chinese Thought of the Modern Age. The discussion also includes contemporary Chinese thinkers.

It is worth noting that in his essay on 'Mao Tze-tung and the Chinese Tradition', Prof. Bishop throws light on 'a number of parallels between Mao and Confucianism'. He notes:

> Mao and Confucianism both accept a non-exclusionist epistemology consisting of empiricism and rationalism. Both view reality as organic and constantly in flux and they agree in the ethical, social, political and humanistic implications of organicism and change.

Prof. Bishop also points out that the Chinese tendency to assimiliate or 'sinocize' the alien or intruder is quite evident in the field of application of Marxism also.

> Marxism, then, is not accepted in its Russian form but is remoulded to fit Chinese condition. Perhaps, to sum up, the best terms to use would be that there is continuation and extension of traditional Chinese humanism and pragmaticism.

The volume will certainly contribute to the process enabling readers to

understand and appreciate China's thought and tradition as well as its views of man and the world.

University of Delhi, Delhi LATIKA LAHIRI

SUMAN KHANNA: *Gandhi and the Good Life* (New Delhi: Gandhi Peace Foundation), Rs. 100.

This systematic study and lucid exposition of Gandhi's ethico-religious thinking is a work of outstanding excellence as it satisfies several different requirements rarely met by any writers so far. It strictly follows Blake's injunction to all moralists: 'Go! put off holiness, and put on intellect.' The academic philosopher and the general reader will find it equally persuasive.

Instead of idolizing the Mahatma as a charismatic miracle-monger or God-sent messenger, Dr Khanna explains clearly the many steps which, deliberately chosen and steadily followed, raised a Very Ordinary Person into a world-famous herald of the New Age. While Fischer, Sheean and Erikson and even Indian writers like Raghavan Iyer and Bandyopadhyaya study Gandhi *in vacuo* and apart from his ancestral Vaiṣṇavism, Dr Khanna views him against his Indian background and presents him, not as a prodigy or a freak, but as a normal, natural flower appearing in due season on the old, sturdy tree of Hindu culture. His *Experiments with Truth* proves in a scientific manner how the acceptance of *dharma* and its practice in daily life does lead to the experience of peace and bliss, which is *mokṣa* in this very life, here and now. Gandhi was a *sanatani* Hindu, as he repeatedly claimed to be, and Dr Khanna demonstrates how his undoubted heroism sprang from patient, persevering practice of the *swadharma* which he learnt from his mother religion. Dr Khanna's comparative study of Gabriel Marcel, the French philosopher, and Gandhi, the *Karmayogi*, or spiritual athlete, serves to establish the basic identity of traditional Vedānta and modern existentialism. The plan of the entire work is to show that the Hindu scheme of life does succeed in divinizing the individual and harmonizing society if one attaches 'more value to action than to mere words'.

The words and concepts are, of course, precious and worth preserving. But their practical application to changing situations is of paramount importance. Dr Khanna first examines the words and concepts by linguistic analysis, and proceeds to explain and recommend the *praxis* through the existential-phenomenological method of philosophical enquiry. However, by scrupulously avoiding technical jargon, she clothes her arguments, profound and moving, with the charming simplicity of a Socratic dialogue.

With his firm faith in the scriptures, in the Upaniṣads which extol *mokṣa* and the *Gīta* which extols *dharma*, Gandhi, like the ordinary Hindu, accords to *artha* and *kāma* a merely instrumental value. Survival no doubt comes first in time, but Being-Needs, the intrinsic values, beckon us to the timeless

Awareness-Bliss. For the Vaiṣṇava as for the pure Advaitin, realization is not knowing but becoming god, the one being which is in all beings, and this actualization of our real, divine nature is available for all human beings. Today, Gandhi says, this realization is 'impossible without service of, and identification with, the poorest'. (Sri Ramana agrees, but would reverse the order, identification first and service to follow.) Whether *dharma* follows *mokṣa* or vice versa, mokṣa is timeless, *dharma* is timebound. *Dharma* changes with time, place and circumstance. Hence both Gandhi and Ramana reject any doctrine repugnant to reason and morality.

It is only *sat*, the sole Reality, that is manifested as *satya* in thought and speech, and as *sattva* in action. Hence morality has a metaphysical basis. The moral law within obeys the same divine imperative as the starry heavens above. If, as Bertrand Russell says, the good life is inspired by love and guided by knowledge, why not place more reliance on the warmth of the human heart and the light of human reason than on any sudden, blinding revelation? The Hindu gods are not wholly other, awe-inspiring beings, but comely and lovable friends and companions. Good conduct, thus, is not discipline imposed from above, but an enjoyable exercise like swimming or cycling. And the reward is not in some remote *post mortem* heaven, but in the inward peace and outer harmony it brings about. The athlete of the spirit, by self-control shrunk into a zero, springs up unawares a hero, strong and free and happy. While love of power is a deadly malady, the power released by *prema* is the ontic power of Reality. Hence *ahiṁsā*, in its positive and dynamic form of love, serves both as means and end. Like the sun and sunlight, *sat*, the ultimate truth, and *satya, sattva*, the relative truth now wholly ours, are in substance one and the same. Truth, the goal, the best, is no enemy of love, the path, the good. For the pilgrim on the path, the truth of love and the love of truth are 'beacon, shield and buckler'. *Ahiṁsā*, the means supreme for Truth, the prime concern of all mankind, is no namby-pamby sentiment; it is 'the largest love, the greatest charity' towards all creatures. It is a potent force, a law as fact, like gravitation, rather than a prescribed norm. Self-active, if unobstructed, it binds and holds together the human race, and ensures its survival. Deriving its strength from the basic identity of all selves, *ahiṁsā* works as a healing agent through conscious suffering for the faults and failings of 'others'. On the contrary, an act of violence disrupts human unity and removes us a step away from truth. 'In fighting the imaginary enemy without one only neglects the enemy within.' The universal truth can be seen face to face by any one who learns to 'love the meanest of creation as oneself'.

But this lesson is not easy to learn. To err is human, to forgive divine. We see the mote in our neighbour's eye, but not the beam in our own. To love one's enemy, to love the wicked and the tyrannical, one has to depend on the grace of god. Perfect *ahiṁsā* is impossible without a living faith in the god of love, in god as love. One discovers *ahiṁsā* through *satya* and *satya* through *ahiṁsā*.

To the doer of the word of god, this interdependence of love and truth is a matter of experience, while it is only a logical conclusion to the speaker and hearer of the word. The pure, egoless person who suffers lovingly and prayerfully for 'others' finds peace and bliss in this very suffering.

There is no wall of separation between means and end, between *dharma* and *mokṣa*. As the seed, so the tree. As I am now, others will be tomorrow. The fact of the identity of all selves is proved experimentally through the active love of others as oneself.

Love demands the laying down of one's life for one's friends. Fasting, 'the laying down of one's head on God's lap in utter helplessness', when undertaken in obedience to the inner voice, shifts our common burden from man to god. One surrenders one's last and most precious possession, one's life, to the god of love, whose other face is truth. In this *yajña* where the *ghee* of love feeds the fire of truth, the weaker the body the stronger the spirit grows. The astonishing mental vigour and energy displayed by Gandhi during prolonged fasts sprang from his mounting concern for the welfare of others. When he fasts, he prays *better*; body and mind are now offered as oblation to the eternal goodness. Dr Khanna thus brings out the inner logic behind the all-round efficacy of *upavāsa*, fasting as nearness to god: 'Since we are really identical in being, when anyone is purified through prayerful suffering, the good in others tends freely to surface'. The hidden seed hears the summons of the sun. Christ on the cross is, like the lotus, a symbol of the power of light to raise a blossom from the slush. The silent appeal to the heart is not coercion; it is an attempt to open up the inner understanding in every human being. Fasting as self-abandonment to divine providence does transform a tense situation by unclenching fists, joining palms and restoring human unity.

A vow or *vrata* is not like a fast, an encounter with truth, a wrestling with god, an event. It is rather a course of discipline or training to maintain one's fitness. A commitment to a self-imposed injunction saves the aspirant from the agony of repeated choice, and enables him to reach a higher state of being. Taking the road of *śreyas* winding uphill, one leaves behind the lures of *preyas*; the self as a friend assumes assured mastery over the ego, one's only foe.

These vows appear various and numerous, but in actual conduct form a single upward thrust helping the evolution of our nature from human to divine. What holds the many vows together, the sap that makes soil and sunlight meet and merge as a single life-force, is humility, the self-critical self-knowledge, the teleological urge questing for perfection which sustains our growth from good to better daily self-surpassed. Hanumān embodies this virtue rooted in the future, not the past. Born a monkey like any other monkey, the humble servant of Śrī Rāma equals any god. Humility makes for continuous self-renewal by supplying strength and courage for unwearied service.

For Gandhi as for Sri Ramana self-realization is the highest value, the

ultimate end of human existence, observes Dr Khanna, but the means are different. Gandhi relies on self-control and selfless service, on *dharma* as path leading to *mokṣa*, the goal. Ramana prescribes self-enquiry as the method for discovering the *mokṣa* which is already and for ever ours. Dr Khanna notes the contrast, but does not presume to express a preference, unlike the valiant Dr Arun Shourie who, in his *Hinduism: Essence and Consequence*, exalts Vivekananda and Gandhi above Sri Ramakrishna and Sri Ramana, mere 'seekers of personal salvation'. In this rarefied region where angels fear to fly, wisdom lies in silent listening to a real *jñānī* like Meister Eckhart who declares: 'Blessed are those who hunger and thirst after righteousness. More blessed are those who hunger and thirst after the Presence of God. But most blessed are those who, having attained the Eternal Now, hunger and thirst after nothing at all.' The road winds uphill all the way each step is bliss, and the view from every slope is, like every colour of the spectrum, lovely to behold. All views are summed up at the summit and all colours merge in the whiteness of Advaita, pure *jñāna*. At the top there is no more climbing, only seeing.

A word of praise is due to the Gandhi Peace Foundation for publishing this study to mark its silver jubilee. A work of permanent value is a better tribute to Gandhi than mere ephemeral sound and fury.

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CHARLES S. PEIRCE

SESQUICENTENNIAL

INTERNATIONAL CONGRESS

Planning has begun for the C. S. Peirce Sesquicentennial International Congress, to be held at Harvard University in early Fall 1989. Peirce (1839-1914) is widely regarded as the most original and versatile native American intellect, and the Congress will be a major intellectual event, focussing on many aspects of his career and contributions. The Congress will particularly consider the relevance of his works for contemporary issues.

The convening organization is the CHARLES S. PEIRCE SOCIETY (an international scholarly organization founded in 1946); organizing institutions are Harvard University and Texas Tech University. An organizing committee has been formed, consisting of the following members: HANNA BUCZYNSKA-GAREWICZ (*USA*), GERARD DELEDALLE (*France*), UMBERTO ECO (*Italy*), SUSAN HAACK (*United Kingdom*), JAAKKO HINTIKKA (*USA*), CHRISTIAN J.W. KLOESEL (*USA*), DAN NESHER (*Israel*), KLAUS OEHLER *Federal Republic of Germany*), NICHOLAS RESCHER (*USA*), DAVID SAVAN (*Canada*), ISRAEL SCHEFFLER (*USA*), and MICHAEL SHAPIRO (*USA*). The President of the Congress is HILARY PUTNAM (*Harvard University*).

The Congress will end on 10 September 1989 (the sesquicentennial of Peirce's birthdate) and will feature both invited speakers and contributed papers. These may be on any aspect of Peirce's diverse intellectual career. A formal call for papers is planned for the near future.

Persons wishing to be placed on the mailing list for news and announcements about the Congress may write to: KENNETH L. KETNER, Chairperson, Peirce Sesquicentennial International Congress Organizing Committee, Institute for Studies in Pragmaticism, 304K Library, Texas Tech University, Lubbock, TX 79409 USA (Telephone 806 742 3128).

DIALOGUE

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