

THE NYĀYA ON COGNITION AND NEGATION

The Nyāya discussion of negation is closely linked up with a number of concepts, especially the Nyāya concept of cognition, relation and meaning. There are several conditions for making a semantically well-formed or significant negative expression. In this paper we shall mention these conditions in the course of our discussion. We would like to mention a few points regarding the Nyāya concept of cognition, meaning, and relation before we introduce the restrictions on forming a significant negative expression.

I

The Nyāya has draw a distinction between qualificative and non-qualificative cognitions. The Nyāya concept of qualificative cognition can be expressed by a complex expression of the form ' $aRb$ '. A qualificative cognition involves necessarily at least three elements, viz., a qualificand, a qualifier and a relation between them. This relation between a qualificand and a qualifier at the cognitive level might be called the 'qualification relation'. The simplest qualificative cognition has as its object, say, a pot together with potness in a certain relation. This complex is *expressed* by the expression 'a pot', and described by the more complex expression 'potness inheres in a particular pot-individual'.<sup>1</sup>

The qualifier in a qualificative cognition is given by the mode of presentation of the qualificand. In a qualificative cognition an object is cognised under some mode of presentation. In a non-qualificative cognition the ultimate elements of a qualificative cognition are cognised by themselves.

The expression ' $aRb$ ' can be taken as a sort of description for the cognition  $aRb$ , where  $a$  is a qualificand,  $b$  is a qualifier and  $R$  is the qualification relation (*viśeṣya-viśeṣaṇa-sambandha*). In this context it is to be noted that ' $R$ ' is not a constant.  $R$  (not the letter ' $R$ ') is any cognised relation between  $a$  and  $b$ . Let us explain this point by an example.

The expression 'a cow' may be taken to express a qualificative cognition.<sup>2</sup> In this cognition the qualificand is an individual cow, the qualifier is cowness

i.e. the mode of presentation of a cow, and the qualification relation is inherence. In this cognition an individual cow is cognised under the mode of cowness in the relation of inherence. In the technical language of the Nyāya this relation of inherence in this context is called the '*prakāratā-avacchedaka-sambandha*'. This term can be translated as 'the limiting relation of the property of being the qualifier'.

In this context it is to be noted that the mode of presentation of an object need not be an essential property of an object. But when we are talking about the meaning of an expression, the mode of presentation is to be taken as the reason for applying an expression to whatever object or objects it applies. The meaning of the word 'cow' contains three elements, viz., (1) the denotation of the word 'cow', (2) an essential property of the denotata, which is cowness in this case, and (3) the relation of inherence. The relation of inherence relates cowness to different individual cows. So according to the Nyāya theory of meaning, the meaning of such an expression contains at least three elements. Now it may be asked whether the meaning of the expression 'cowness' can be explained in the same way. In the meaning-complex of the word 'cowness' the denotatum is cowness which is a generic property, the mode of cognition of cowness is cownessness, and the relation of cownessness to cowness is a self-linking relation (*svarūpa-sambandha*). To say that a relation is a self-linking relation is to say that it is ontologically identical with either of its terms or with both. It is, however, usual to take this relation to be ontologically identical with its first term. In this context cowness is itself playing the role of a relation. The second order abstract entity cownessness is the property of cowness and this property is also a mode of presentation of cowness.

The property cowness inheres in all and only cows. The inherence of cowness is related to particular cows by different self-linking relations. Let us explain it in the following way:

$aRc$  i.e. cowness inheres in a cow, say  $a$ ;

$bRc$  i.e. cowness inheres in a cow, say  $b$ ;

and so on.

The  $a$  which is the first member of the relation  $R$  whose second member is  $c$  i.e. cowness, has the property of being the first member of the relation  $R$  whose second member is  $c$ . Similarly in  $bRc$  the  $b$  has the property of being the first member of the relation  $R$  whose second member is  $c$ . In this context

it is to be noted that these properties are all different properties of different individual cows.

The property cownessness belongs to cowness just as the property cowness belongs to all and only cows. Now the question is what this property cownessness can be. As cowness is a generic property inhering in all and only cows, cowness has the property of inhering in all and only cows. Now this property belonging to cowness is really one single property; for the property of inhering in a particular cow, say  $C_1$ , is not the same as the property of inhering in a second cow, say  $C_2$ . That these properties are different can be shown in the following way. When the particular cow  $C_1$  dies, cowness ceases to inhere in it. But cowness continues to inhere in the second cow  $C_2$ . So the property of inhering in  $C_1$  is destroyed even though the property of inhering in  $C_2$  continues to belong to cowness. The point is that although cowness inheres in all cows, that is, is related to all cows by one and the same relation of inherence, yet there is a sense in which cowness belongs to different cows in different specific relations. Thus we have the problem of cowness being related to all individual cows by the same relation and also by different relations. The solution to this problem, according to the Nyāya, lies in the distinction between the relation of inherence which relates cowness to individual cows and which is the same in all cases, and the relation of this relation to each individual cow, which is different in each case. That is to say, although there is one relation of inherence between cowness and the individual cows, yet this one relation is related to different cows by different relations. Thus by postulating the relation of inherence and a relation by which the relation of inherence is related to the individual cows the Nyāya explains how cowness can be necessarily related to all cows and how it can be accidentally related to the individual objects which happen to be cows. Thus when a particular cow dies it ceases to be a cow and the universal cowness ceases to inhere in it, although it continues to inhere in all other living cows. When a particular cow dies what is destroyed is not the relation of inherence, but the relation by which the relation of inherence is related to that particular cow. Cownessness is, therefore, the property composed of all these particular relations in which the relation of inherence stands related to different individual cows. This fact also implies that cowness is related to inherence by different relations in different particular cows. When a particular cow dies, cowness ceases to inhere in it. That means cowness ceases to be the second term of the relation inherence so far as this particular

cow is concerned. So we have to posit a particular relation between cowness and inherence just as we posited a particular relation between inherence and a particular cow  $C_1$ .

In symbols this can be explained in the following way:

' $C_1$ ', ' $C_2$ ', ..., ' $C_n$ ' are names for individual cows  $C_1, C_2, \dots, C_n$ . ' $T$ ' stands for the relation of inherence. ' $S_1$ ', ' $S_2$ ', ..., ' $S_n$ ' stand for particular relations of  $I$  to  $C_1, C_2, \dots, C_n$  respectively. ' $C'$ ' stands for cowness and ' $C''$ ' stands for cownessness. ' $T_1$ ', ' $T_2$ ', ..., ' $T_n$ ' stand for particular relations of  $I$  to  $C'$ .

- (i)  $C' - T_1 - I - S_1 - C_1$ .
- (ii)  $C' - T_2 - I - S_2 - C_2$ .
- .....
- (n)  $C' - T_n - I - S_n - C_n$ .

The property of being  $C'$  in (i) = Cownessness<sub>1</sub>.

The property of being  $C'$  in (ii) = Cownessness<sub>2</sub>.

.....

The property of being  $C'$  in (n) = Cownessness<sub>n</sub>.

Cownessness is, therefore, not one property, but a collection of as many cownessnesses as there are cows. Since the Nyāya does not ascribe any separate ontological existence to higher order abstract properties, this method of reduction is necessary for its ontology.

From the above discussion of the Nyāya concept of cognition it follows that any qualificative cognition can be described by the form ' $aRb$ ', where  $a$  is a qualificand,  $b$  is a qualifier, and  $R$  is a qualification relation. When this description of the cognition is expanded in the technical language of the Nyāya, it takes the following form:

The cognition in which the property of being the qualificand resident in  $a$  is limited by  $a$ -ness and determined by the property of being the qualifier resident in  $b$  and the latter property is limited by  $b$ -ness and  $R$ .

This description of a cognition can be brought closer to our understanding in terms of the role and the mode of presentation of an object of cognition. The object  $a$  is playing the role of a qualificand under the mode of  $a$ -ness. In some other context the same object might play some other role under the same mode or some other mode of presentation. Similarly, the object  $b$  is

playing the role of a qualifier under the mode of *b*-ness and the relation *R*.

Now let us explain the distinction between the relation *limited by* and the relation *determined by*.

- (A)  $x$  is limited by  $y$  iff (i) both  $x$  and  $y$  are properties,  
 (ii)  $x$  is a relation property ( $y$  may or may not be a relational property),  
 and (iii) the property  $y$  is a mode of presentation of the object where the relational property  $x$  resides.

When all the above conditions are fulfilled, it is said that  $x$  is the entity limited and  $y$  is the entity limiter. In this context it is to be noted that the term 'limited by' has been used in different senses in different contexts. We are using this term in one of its senses. From the subsequent discussion it will be obvious that our use of the term 'limitor' includes in its sense the sense of the term 'mode of presentation (or cognition)'.

- (B)  $x$  is determined by  $y$  iff both  $x$  and  $y$  are relational properties of correlatives.

Now let us classify the different types of relations cognised in different qualificative cognitions. This classification is necessary in order to understand the different types of negation. According to the Nyāya all relations are dyadic. All higher order relations are reduced to a set of dyadic relations. So a relational cognition has the form ' $aRb$ ', where ' $a$ ' stands for the first term and ' $b$ ' stands for the second term of the relation *R*. The Nyāya terminology for the first term is 'subjunct' and for the second term 'adjunct'. A relation is called 'occurrence-exacting' or 'non-occurrence-exacting' depending on whether the second term occurs in the first term or not. Relations like conjunction or inherence are called 'occurrence-exacting', because the second term of these relations occur in the first term. But relations like identity, pervasion, non-pervasion, contentness, content-possessoriness are called 'non-occurrence-exacting'. In a non-occurrence-exacting relation the second term does not occur in the first term. In this context we would like to mention another important aspect of the Nyāya concept of relation. In some context a term itself plays the role of a relation. This type of relation is called 'self-linking relation' (*svarūpa-sambandha*). The

relation of an imposed property to its possessor is considered as a self-linking relation. All properties other than qualities like red colour or conjunction, particularities of the ultimate entities and generic properties are considered as imposed properties, and the relation of an imposed property to its locus is a self-linking relation. Similarly, most of the relational abstracts are considered as self-linking relations. In a relational situation  $aRb$ ,  $a$  is the first term of  $R$  and  $b$  is the second term of  $R$ . So the term  $a$  has the property of being the first member of  $R$  and the term  $b$  has the property of being the second term of  $R$ . These relational abstracts are considered as self-linking relations. Another way of describing this situation is to say that the relation of  $R$  to  $a$  or the relation of  $R$  to  $b$  is a self-linking relation. In the case of the relation of  $R$  to  $a$  the self-linking relation is identified with  $a$ , and in the case of the relation of  $R$  to  $b$  the self-linking relation is identified with  $b$ . The self-linking relation plays a significant role in the context of a negation. When we say 'the absence of  $a$  is in  $b$ ', what we describe is that the absence of  $a$  (not the expression 'absence of  $a$ ') is related to  $b$  which is its locus by an absential self-linking (*abhāvīya-viśeṣanātā*) relation. In addition to these types of self-linking relation there are other varieties of self-linking relations.

## II

In this section we would like to discuss the Nyāya concept of negation. The following points will be discussed in this context.

- (A) The criteria for forming a significant negative expression.
- (B) The relation of the negation of  $t$  to  $t$  and the relation of the negation-of- $t$  to its locus, where ' $t$ ' is any term.
- (C) Types of negation.
- (D) Double negation.
- (E) The problem of negation with respect to an empty term.
- (F) The problem whether the Nyāya concept of negation is a term-negation or a sentence-negation or a propositional function-negation.

(A) According to the Nyāya the negation of an expression would be significant if the following conditions are satisfied:

- (a) If ' $t$ ' is a meaningful expression, then the expression 'negation of  $t$ '

or 'not- $t$ ' would be significant if  $t$  (not the expression ' $t$ ') is not a universal property. According to the Nyāya the terms 'existence', 'knowability' and 'nameability' refer to a universal property. The property signified by these terms characterises all objects or is locatable in every object. If we were to form a negative expression from a term denoting a universal property, then the negative expression, according to the Nyāya, would be meaningless. This shows that the Nyāya does not accept the thesis that if an expression is meaningful, then its negation is also meaningful. If this thesis is called 'the significance criterion for negation', then the Nyāya does not accept this criterion as a universally valid criterion. The term 'nameable' is significant, but the term 'unnameable' is not significant in the same sense. The term 'nameability' refers to a property *nameability*. But the term 'unnameability' is an empty term, for it does not refer to anything. Hence sentences like 'no existent thing is unnameable' or 'all unnameable things are non-existent' are not consistent with the rules for forming negative expressions, while sentences like 'all existent things are nameable' are true. From this it follows that according to the Nyāya the rules of obversion, contraposition and double negation are not universally valid rules.

(b) If 'the negation of  $t$ ' is a significant expression, then the term ' $t$ ' must not be an empty term. Terms like 'Pegasus' and 'a hare's horn' are considered as empty terms, because the objects referred to by these terms are unreal. According to the Nyāya<sup>3</sup> the cognition expressed by the term 'negation of  $t$ ' is dependent upon the cognition expressed by the term ' $t$ '. Hence the cognition of the negation of  $t$  presupposes the cognition of  $t$  (not the expression ' $t$ '). If the term ' $t$ ' is empty, the term 'negation of  $t$ ' cannot be a significant expression. From this it does not follow that any expression which contains an empty term is nonsignificant. In our discussion on empty terms we shall see how the Nyāya explains the meaningfulness of sentences like 'Pegasus exists' or 'a hare's horn exists' or 'a hare's horn does not exist'.

(c) The expression 'negation of  $t$ ' will be meaningful if we know what it is for  $t$  to be present somewhere. If we know what it is for  $t$  to be present somewhere, then we know the manner of presentation of  $t$ . In the cognition *negation of  $t$* ,  $t$  is the counterpositive of the negation of  $t$ . The manner of presentation of  $t$  in the cognition *negation of  $t$*  is the limitor of the property of being the counterpositive of the negation. The  $t$  is cognised as present somewhere by some relation. The relation in which  $t$  is present in some locus

is called 'the limiting relation of the counterpositiveness resident in  $t$ '. When we are considering a particular negation there must be exactly one (simple or complex) limiting relation of the counterpositiveness resident in  $t$ .

In this context it is to be noted that the first two restrictions are applicable to all types of negation and the third restriction is applicable only to certain special types of negation.

(B) Now let us discuss the relation of the negation of  $t$  to  $t$  on the one hand, and the negation of  $t$  to its locus on the other. The  $t$  (not the expression ' $t$ ') is the counterpositive of the negation of  $t$  (not the expression 'negation of  $t$ '). So the relation of the negation of  $t$  to  $t$  is called 'counterpositiveness'. The relation *counterpositiveness* is a self-linking (*svarūpa*) relation. In the above example, the counterpositiveness resident in  $t$  is limited by both a mode of presentation and the limiting relation in which it is present somewhere. In an extended sense the term 'mode of presentation' might include the limiting relation in which  $t$  is present in its locus. So there are two types of limitors of the counterpositiveness resident in  $t$ . In this case the counterpositiveness is limited by at least one property of  $t$  and by at least one relation in which it is present in some locus. Let us consider the negation of a pot. Here a pot is the counterpositive of the negation of a pot. So the counterpositiveness is present in a pot. If by 'a pot' involved in the expression of the negation we mean 'the pot which is present in my kitchen', the counterpositiveness resident in a pot is limited by the property of being present in my kitchen, which is the mode under which the pot is cognized. If the presence of this pot is cognised as being present on the floor of my kitchen by the relation of contact, then the limiting relation of the counterpositiveness is contact. Unless we specify the limitor or the limitors and the limiting relation, both the absence and the presence of the same object might be located in the same locus. In the above example, the same pot is present in its parts by the relation of inherence and absent in its parts by the relation of contact. If we do not specify the limiting relation, we can say that the same pot is both present and absent in its parts. Similarly, we have to specify the limitor of the counterpositiveness. If by 'the negation of a pot' we mean 'the negation of a particular (pot)', then the property of being that particular (*tad-vyaktivva*) will be one of the limitors of the counterpositiveness, and if by 'the negation of a pot' we mean 'the negation of any pot', then potness is the limitor of the counterpositiveness. Now in the context of the negation

of  $t$ , the  $t$  is playing two roles. It is the counterpositive of the negation of  $t$ . So it is a term of a relation. Moreover, it is said that the  $t$  has the property of being the counterpositive or counterpositiveness, and this is a self-linking relation i.e. the counterpositiveness is identified with  $t$ . So two things have been said in this context. (1) The counterpositiveness is a relation of negation of  $t$  to  $t$ , and (2) the counterpositiveness is identified with  $t$ . That is to say, the  $t$  is playing two roles in this context. It is both a term of a relation and a relation.

In the above paragraph we have discussed the nature of the relation of the negation of  $t$  to  $t$ . Now it may be asked what would be the nature of the relation of  $t$  to the negation of  $t$ . The relation of the negation of  $t$  to  $t$  is called 'counterpositiveness', and the relation of  $t$  to the negation of  $t$  is to be called 'the converse of counterpositiveness'. Thus  $t$  is the counterpositive of the negation of  $t$  and counterpositiveness or the property of being the counterpositive resides in  $t$ . Similarly, the converse of the counterpositiveness which is a relational property resides in the negation of  $t$ . So the negation of  $t$  has the property of being the converse of the counterpositive. This relation of converse of counterpositiveness is also a self-linking relation, and it is to be identified with the negation of  $t$ . Here also two things have been said about the relation of converse of counterpositiveness. The converse of counterpositiveness is a relation of  $t$  to the negation of  $t$ , and it is to be identified with the negation of  $t$ .

Now let us discuss how the negation of  $t$  is related to its locus. According to the Nyāya the relation of negation-of- $t$  to its locus is also a self-linking relation. In order to distinguish this type of self-linking relation from other types of self-linking relation it is called 'absential self-linking relation'. If the negation of  $t$  is present in a locus, say  $l$ , then  $l$  is the first member and the negation of  $t$  is the second member of this absential self-linking relation. Since this relation is identified with its locus  $l$ , the  $l$  is playing the role of a term as well as the role of a relation between itself and the negation of  $t$ . The relation of  $l$  to the negation of  $t$  is the converse of an absential self-linking relation and is itself a self-linking relation. Hence the negation of  $t$  is also playing the role of a term as well as the role of a relation.

We have so far discussed the conditions which will make the expression 'the negation of  $t$ ' significant. We have also discussed how the negation of  $t$  is related to  $t$  on the one hand, and how the negation-of- $t$  is related to its locus on the other. In addition to these problems there is an epistemological

problem about negation. The epistemological problem is concerned with the relation between the cognition of the negation of *t* and the cognition of *t*. The cognition of the negation of *t* presupposes some previous cognition of *t* itself. But the relation between the cognition of the negation of *t* in the locus *l* and the cognition of *t* in the same locus is called the 'prevented-prevented relation'.<sup>4</sup>

From the epistemic level we move to the ontological level when we discuss the truth or the falsity of a cognition. In a true cognition all the elements of the cognition are real entities in the world. In our above discussion we pointed out that a qualificative cognition has a qualificand, a qualifier and a qualification relation. If a cognition is true, then all the elements of it are real. But if a cognition is false, then the qualification relation is unreal. The qualificand and the qualifier are real entities in the world both in a true and a false cognition.<sup>5</sup> If the cognition of a pot being on the ground is false, then the qualification relation between a pot and the ground is unreal. Neither the particular pot nor the ground will be unreal. So the falsity of a cognition is explained in terms of the unreality of the qualification relation between the qualificand and the qualifier. Now the question of the truth or the falsity of a cognition introduces the problem whether the negation-of-*t* or *t* is present in a locus. According to the Nyāya if *t* occurs pervasively in its locus, then the negation of *t* cannot be present in the same locus, and conversely. But if *t* does not occur pervasively in its locus, then the negation of *t* is also present in the same locus at the same time, and conversely.<sup>6</sup>

From the above discussion it follows that the problem of negation has been discussed at three different levels, viz., the linguistic level, the epistemic level and the ontological level. Now the question is how these different levels are related to each other. The epistemic level explains the significance of an expression. We cannot claim that the expression 'the negation of *t*' is significant unless we can cognise what it is for *t* to be present somewhere and what it is for the negation of *t* to be present somewhere else. So the significance of a negative expression is explained in terms of the cognition of the negatum which is present somewhere and the cognition of its absence somewhere else. Moreover, the denotatum of the expression '*t*', which is an element of the meaning-complex of the term '*t*' is an entity in the real world. Similarly, the denotatum of the expression 'the negation of *t*' is a real entity in the world, and it is also a part of the meaning-complex of the expression 'the negation of *t*'. This is how the linguistic level leads us to the ontological

level. But the question of truth and falsity directly relates the cognitive level to the ontological level. The relation between these levels can be represented by the following diagram:



(C) Types of negation.

According to the Nyāya there are two main types of negation. The difference between these two types of negation can be drawn in terms of the limiting relation of the property of being the counterpositive. The difference between them at the level of language can be represented by the following forms:

- (1)  $x$  is not in  $y$  or  $x$  does not occur in  $y$ , or not- $x$  is in  $y$
- (2)  $x$  is not  $y$ , or  $x$  is different from  $y$ , where ‘ $x$ ’ and ‘ $y$ ’ are non-empty terms in both cases.

(1) represents relational absence and (2) represents mutual absence. In (1) not- $x$  (not the expression ‘not- $x$ ’) occurs in  $y$ . So  $x$  (not the expression ‘ $x$ ’) is the counterpositive of not- $x$  (not the expression ‘not- $x$ ’). In (1) the property of being the counterpositive resident in  $x$  is limited by  $x$ -ness and by an occurrence-exacting relation. In (2)  $y$  is the counterpositive of not- $y$  or difference from  $y$ , and the property of being the counterpositive resident in  $y$  is limited by  $y$ -ness and the limiting relation of identity. This way of making the distinction between (1) and (2) can be made evident if we consider the positive counterpart of these sentences. The positive counterpart of (1) is

- (1’)  $x$  is in  $y$ , or  $x$  occurs in  $y$ ,

and the positive counterpart of (2) is

- (2’)  $x$  is  $y$ .

According to the Nyāya in (1’) the denotatum of ‘ $x$ ’ occurs in the denotatum of ‘ $y$ ’, and the relation of  $x$  to  $y$  is an occurrence-exacting relation. The relations like inherence (*samavāya*), some cases of conjunction (*saṃyoga*), some cases of self-linking relations (*svarūpa-sambandha*) are considered as occurrence-exacting relations. In (2’) the denotatum of ‘ $x$ ’ and that of ‘ $y$ ’ are

the same thing. So  $x$  and  $y$  are related by the relation of identity. In this context it is to be noted that there is a difference between the expressions 'x is y' and 'x is identical with y'. In the former case the relation of identity is meant or cognised but not stated, while in the latter case the expression 'identical with' is used, and hence identity is not cognised as a relation but it is cognised as a term of a different relation.

According to the Nyāya if the limiting relation of the property of being the counterpositive is neither occurrence-exacting nor identity, then the negative expression corresponding to it will not be significant. Relations like pervadedness, non-pervadedness, contentness, content-possessorship are called 'non-occurrence-exacting relations'. When we say 'x pervades y' or 'Fire pervades smoke', this does not mean that  $x$  occurs in  $y$  or fire occurs in smoke by the relation of pervadedness. What it means is that every locus of  $y$  is also a locus of  $x$ . Similarly, when we say 'x does not pervade y', we cannot say that  $x$  is in  $y$  by the relation of non-pervadedness. In the case of the contentness relation the first term of the relation is an object of cognition and the second term of the relation is a cognition. So the relation of  $x$  to  $y$ , where  $y$  is an object and  $x$  is a cognition, is called the 'contentness relation'. But the relation of  $x$  to  $y$ , where  $y$  is a cognition and  $x$  is an object, is called the 'content-possessorship relation'. In such cases we cannot say that the second term of the relation occurs in the first term. What occurs in the first term of the relation in such cases is the relation itself by a self-linking relation which is an occurrence-exacting relation.

Now the question is why any non-occurrence-exacting relation other than identity cannot be a limiting relation of the counterpositiveness. On this point the Nyāya view is as follows:

It is said that we can negate an entity if we know what it is for this entity to be present somewhere. If it is present somewhere, then it is present by an occurrence-exacting relation. Relations like contentness, content-possessorship, pervadedness or non-pervadedness are not occurrence-exacting, and the second members of these relations are not present in the first members of these relations. So the condition on the presence of an object rules out these relations as the limiting relations of the counterpositiveness.

From the above discussion it follows that if the limiting relation of the counterpositiveness is occurrence-exacting, then the negation is called 'relational absence', and if the limiting relation of the counterpositiveness is identity, then the negation is called 'mutual absence'. And if the counter-

positiveness is limited by any other relation, then the negative expression will be non-significant.

Now let us discuss the different types of relational absence. There are three types of relational absence.

(1) The relational absence of an object before its production is called the 'not-yet type of relational absence' (*Prāgabhāva*). The absence of a jar before its production is present in its parts. So this type of relational absence is called the 'not-yet type of absence'. When the jar is produced, the not-yet type of absence is no longer in its parts.

(2) The relational absence of an object after its destruction is called the 'no-more type of absence' (*dhvamsa*). The absence of a particular jar when it is destroyed is present in its parts. Both the no-more type of absence and the not-yet type of absence are limited in time. The no-more type of absence has a beginning, but no end. The not-yet type of absence has no beginning, but has an end.

(3) The third type of relational absence is called the 'never type of absence' (*atyantābhāva*). For example, the absence of a colour in air, or the absence of a pot on the ground. This type of absence is both beginningless and endless.

Let us point out some of the distinctive features of both the not-yet and the no-more type of absence.<sup>7</sup> The property of being the counterpositive in both the cases is not limited by any limiting relation. In the case of the not-yet type of absence, the object is not present somewhere prior to its production. Hence there is no limiting relation of the counterpositiveness. In the case of destruction or the no-more type of absence, the counterpositive is destroyed. Once the counterpositive is destroyed, there cannot be a limiting relation of the property of being the counterpositive resident in the counterpositive. If the destruction of a particular jar is the separation of its parts which constitute the whole jar, then the whole jar ceases to exist at time  $t_n$ , when it is destroyed. But if 'ceases to exist at time  $t'_n$ ' is explained as 'existent at time  $t_{n-1}$ ', then obviously the parts are related to that jar by the relation of previous existence. A similar argument would apply to the not-yet type of absence. The counterpositive in this case is related to its parts by the relation of posterior existence. Apart from this temporal relation the counterpositiveness is not limited by any limiting relation in both the cases. In this respect

the never type of absence differs from the other two types of relational absence.

Now let us discuss the never type of absence.<sup>8</sup> Consider the sentence

(1) A pot is on the ground.

The ordinary negation of this sentence will be ambiguous so as to yield two never type of absences. It will yield either

(2) The ground has an absence of a pot,

or

(3) The pot has (the property of) absence-from-the-ground.

Let us explain this example by using the expression ' $aRb$ ', where  $b$  is a pot,  $a$  is the ground and  $R$  is the relation called 'contact'. The ground is the first member of the relation  $R$  and a pot is the second member of this relation. The converse of this relation is also a contact. Since a pot occurs on the ground in the relation of contact, not only the ground is characterised by a pot (i.e. the ground possesses or has a pot in the relation of contact), but also a pot has the property of being the occurrent on the ground in the relation of contact. When we say that a pot has the absence of the property of being the occurrent on the ground in the relation of contact what we mean is that a pot is not on the ground or a pot does not occur on the ground. In (2) what is negated is a pot and the limiting relation of the counterpositiveness is the relation of contact. In (3) what is negated is the ground along with the converse of the relation of contact. So in (2), what we are saying is that  $a$  has the absence of  $b$  and the limiting relation of the counterpositiveness is contact. In symbols it can be expressed in the following way:

(2')  $a S_1 \overset{R}{(b)}$ -neg, where  $a$  is the ground,  $b$  is a pot,  $(b)$ -neg is the absence of a pot,  $R$  is the limiting relation of the counterpositiveness resident in  $b$ , and  $S_1$  is a self linking relation which relates the second member of this relation to the first member. What (3) says is that a pot has the absence-of-the-converse-of-the-contact-on-the-ground. In symbols (3) can be represented in the following way:

(3')  $b T \overset{\check{S}}{(Ra)}$ -neg, where  $b$  is a pot,  $a$  is the ground,  $\check{R}$  is the converse of the relation of contact, ' $\check{\text{---}}$ ' stands for the scope of the counterpositive,  $(\check{Ra})$ -neg

is the absence of the ( $\check{R}a$ ),  $S$  (inherence 'samavāya') is the limiting relation of the counterpositiveness resident in ( $\check{R}a$ ), and  $T$  is a self-linking relation which relates the ( $\check{R}a$ )-neg to  $b$ . What (3') says is that  $b$  has the absence of being the second member of the converse relation  $R$  having  $a$  as the first member.

Now let us discuss the nature of a mutual absence and whether the expression which expresses a mutual absence is definable in terms of an expression which expresses a never type of absence.

In a mutual absence the property of being the counterpositive is limited by the relation of identity. On this point there is some difference of opinion among the Nyāya philosophers. Udayana<sup>9</sup> in his *Lakṣaṇāvalī* claims that when it is said that  $A$  is difference from  $B$  what is negated is the supposed relation of identity with  $B$ . This definition can be expressed in the following way:

(D<sub>1</sub>)  $A$  is different from  $B \stackrel{\text{Df}}{=} A$  has the negation of the supposed relation of identity with  $B$ .

Similarly,

(D<sub>2</sub>) Difference from  $B \stackrel{\text{Df}}{=} \text{Negation of the supposed identity with } B$ .

In (D<sub>2</sub>) both the definiendum and the definiens denote a property which is present in everything other than  $B$ .

But according to the Navya-Nyāya what is negated, when it is said that  $A$  is different from  $B$ , is  $B$  and the relation of identity is the limiting relation of the counterpositiveness resident in  $B$ . This definition can be expressed in the following way:

(D<sub>3</sub>)  $A$  is different from  $B \stackrel{\text{Df}}{=} A$  has not- $B$ , or  $A$  has the negation of  $B$ .

Here what is negated is  $B$ , not  $B$  along with identity. Identity is the limiting relation of the counterpositiveness resident in  $B$ .

According to Udayana the cognition that  $A$  is different from  $B$  depends upon or presupposes the cognition that something is supposed (or thought) to be identical with  $B$  or the cognition that  $A$  is thought to be identical with  $B$ . But according to that Navya-Nyāya the cognition that  $A$  is different from  $B$  presupposes the cognition that some definite object is related to  $B$  by the relation of identity.

In this context it is to be noted that the concept of presupposition (or

dependence) should not be interpreted in the way Strawson<sup>10</sup> has interpreted this term. According to Strawson if  $p$  presupposes  $q$ , then whether  $p$  has a truth-value at all is dependent upon the truth of  $q$ . If  $q$  is false, then  $p$  cannot be said to be true or false. But according to the Nyāya philosophers the cognition of an absence is dependent upon or presupposes the cognition of what it is for the counterpositive to be present somewhere. This relation of dependence is at the level of cognition or meaning, and not at the level of truth-value.

There is another point which is to be noted when we compare (D<sub>1</sub>) with (D<sub>3</sub>). In both (D<sub>1</sub>) and (D<sub>3</sub>) mutual absence is defined in terms of negation which is a generic term and the relation of identity is present in the definiens either as forming a part of what is negated or as the limiting relation of the counterpositiveness. From (D<sub>1</sub>) it follows that the difference is the negation of a supposed identity, and the limiting relation of the counterpositiveness resident in *the-supposed-identity-with-B* is a self-linking relation. But from (D<sub>3</sub>) it follows that the relation of identity is the limiting relation of the counterpositiveness resident in *B*.

Now let us discuss whether a mutual absence is synonymous with a never type of absence. Consider the following examples.

- (A) A table is different from a cup  $\equiv$  A table has the never type of absence of cupness.
- (B) This table is different from that table  $\equiv$  This table has the never type of absence of the property of being that table.

In both (A) and (B) the equivalent sentences do not have the same meaning, although they have the same extension. Both (A) and (B) are derivable from the following equivalence:<sup>11</sup>

$$x \text{ is different from } y \equiv (EF) (Fx \cdot \sim Fy),$$

where ' $\sim Fy$ ' is to be interpreted as ' $y$  has absence-of- $F$ '.

This equivalence is again derivable from Leibnitz' principle of the identity of indiscernibles which is tacitly accepted by the Nyāya philosophers. But in (A) the expressions 'different from a cup' and 'the never type of absence of cupness' do not represent the same cognition, because in the former case the limiting relation is identity, while in the latter case it is an occurrence-exacting

relation of inherence (*samavāya*). Now the cognition of the former cannot be said to be identical with that of the latter, because in the cognition of difference from a cup the limiting relation of the property of being the counterpositive is identity, but in the cognition of the never type of absence of cupness the limiting relation of the property of being the counterpositive is the relation of inherence (*samavāya*) which is an occurrence-exacting relation. This phenomenon accounts for the difference in meaning between these two sentences. A similar argument holds for (B) as well.

There is another point to be noted in this context. Identity is a relation and the expression 'identity' refers to this relation. But the expression 'different' does not refer to any relation. It is a syncategorematic expression. It has no meaning in isolation. But the expressions of the form 'difference from  $x$ ' are significant and they refer to negative entities. The expression 'difference from  $a$ ' refers to a property which is present in every object other than  $a$ , but the expression 'difference' is a name for a type of negation called 'mutual absence'.

#### (D) Double Negation.

Now let us discuss whether the law of double negation holds good for the Nyāya philosophy. There are altogether sixteen types of double negation corresponding to four types of negation. But in this paper I would like to discuss the law of double negation with respect to the never type of absence and the mutual absence. Let us use the symbol ' $\sim$ ' for the never type of absence and the symbol ' $-$ ' for the mutual absence. By combining these two types of absence we get four types of double negation. Let us discuss whether the following laws of double negation will hold good for the Nyāya philosophers:

- (1)  $\sim\sim x = x$
- (2)  $---x = x$
- (3)  $\sim-x = x$
- (4)  $--\sim x = x$

According to most of the Nyāya philosophers<sup>12</sup> the law of double negation holds good with respect to (1). A never type of absence of a never type of absence of  $x$  is identical with  $x$ . The arguments put forward in favour of this view are mainly epistemological. It is claimed that wherever we perceive the presence of an object we do not perceive the absence of it in the same locus,

and vice versa. The perception of one prevents the perception of the other. So a never type of absence of a never type of absence of  $x$  would be the same as  $x$ .

But Raghunātha does not subscribe to this view. He claims that all absences have something in common. This common property of all absences is called 'the property of being an absence' (*'abhābatva'*). This is an unanalysable imposed property of all absences. An absence is to be distinguished from a positive entity in terms of this property. So a never type of absence of a never type of absence of  $x$  cannot be the same as  $x$ , if  $x$  is a positive entity. Raghunātha, however, claims that a third never type of absence is identical with the first never type of absence. So the law of double negation is valid in the following case:

$$(5) \quad \sim\sim\sim x = \sim x.$$

The general rule, according to Raghunātha, can be stated in the following way:

If  $n$  never type of absences precede  $x$ , then  $\sim x$  is identical with it provided  $n$  is an odd number of never type of absences, and if  $n$  never type of absences precede  $x$ , then  $\sim\sim x$  is identical with it provided  $n$  is an even number of never type of absences; in all other cases  $x$  is not identical with its never type of absences.

The argument of Raghunātha in terms of an imposed property present in all negative entities might be called an 'ontological argument'. But the argument of other Nyāya philosophers in terms of the perception of an object might be called an 'epistemic argument'.

Now let us discuss whether (2) holds good. When we say ' $A$  is different from  $B$ ', the property called 'difference from  $B$ ' becomes a property of  $A$ . The property difference from  $B$  is itself different from everything else. So the property difference from difference from  $B$  is in everything other than difference from  $B$ . If it were so, then  $--B$  is not identical with  $B$ . As a matter of fact,  $--B$  becomes a property of  $B$  also. The same type of argument is applicable to all other higher order mutual absences. An higher order mutual absence cannot be said to be identical with a lower order mutual absence.

(3) poses an interesting problem to the Nyāya philosophers. According to most of the Nyāya philosophers a never type of absence of a mutual absence of  $x$  is identical with  $x$ -ness, not with  $x$ . So instead of (3) they accept

$$(3') \quad \sim\sim x = x\text{-ness.}$$

(3') has been explained in the following way: The property difference from a pot is present in all things other than a pot. Now the property of the never type of absence of difference from a pot is present in all pots only. According to the Nyāya the property which occurs in all and only members of a class is identical with its class character. Hence, the property the never type of absence of difference from a pot is identical with potness. This justifies the acceptance of (3') instead of (3).

But if we accept (1) i.e. a never type of absence of a never type of absence of  $x$  is identical with  $x$ , then the acceptance of (3') ceases to be a universally valid law.<sup>13</sup> It can be shown in the following way:

- (a)  $\sim\sim x = x$
- (b)  $\sim\sim\sim x = \sim x$  [(b) follows from (a) by the rule of substitution]
- (c) The counterpositive of  $\sim\sim\sim x =$  The counterpositive of  $\sim x$  [(c) follows from the law of identity]
- (d) The counterpositive of  $\sim\sim\sim x = \sim\sim x$ , and the counterpositive of  $\sim x = x$ .
- (e) Therefore,  $\sim\sim x = x$  [From (c) and (d)].

Some Nyāya philosophers including Mathurānātha are of the opinion that  $\sim\sim x$  has a double nature. In some context  $\sim\sim x$  is identical with  $x$ , and in some other context  $\sim\sim x$  is identical with  $x\text{-ness}$ . Now if we accept this thesis of the Nyāya, then we cannot accept Leibnitz' principle of the identity of indiscernibles as a universally valid law of identity. We have to put some restriction on the principle of identity in order to accommodate the view of these Nyāya philosophers.

(4) does not pose any problem to the Nyāya philosophers. A mutual absence of a never type of absence of an object is not identical with that object. So ' $\sim\sim x = x$ ' is always false. A never type of absence of a pot is an entity and it is present where a pot is absent. A mutual absence of a never type of absence of a pot is in all objects other than a never type of absence of a pot. So it is not identical with a pot.

From the above discussion it follows that there is a real difference of opinion among the Nyāya philosophers so far as (1) and (3) are concerned. It seems to us that the difference of opinion is due to the ontological or the epistemic approach to the problem of negation.

## (E) Empty Terms.

Now let us discuss how the Nyāya would explain the meaning of the negation of an empty term. From our discussion on the restrictions on  $t$  in the negation of  $t$ , it follows that the expression ' $t$ ' must refer to a real object. So it rules out the negation of  $t$ , if  $t$  is an unreal object. If the proposition 'A hare's horn does not exist' means 'the negation of a hare's horn', then it would contain an empty term. But if it means 'the negation of a horn in a hare', then it is both meaningful and true. So according to the Nyāya propositions of the above form need some logical analysis. In the ideal language of the Nyāya the phrase 'the negation of a horn in a hare' would occur instead of the phrase 'the negation of a hare's horn'. Let us explain the Nyāya position in the following way:

The Nyāya rules out the possibility of an atomic empty term.<sup>14</sup> If the expression ' $aRb$ ' describes an atomic qualificative cognition, then the terms ' $a$ ' and ' $b$ ' of this relation must be non-empty. From this it follows that a significant empty term must be analysable into at least two non-empty terms. If any expression of the form ' $aRb$ ' represents a cognition, then  $a$  is the qualificand,  $b$  is the qualifier, and  $R$  is the qualification relation or the qualificand-qualifier relation.<sup>15</sup> The proposition 'A hare's horn exists' would describe the following cognition:

- (1) (a hare-individual  $R_1$  hareness) $R$  (a horn-individual  $R_2$  hornness)

In (1) the qualificand is (a hare-individual  $R_1$  hareness), the qualifier is (a horn-individual  $R_2$  hornness), and the  $R$  is a qualification relation between the qualificand and the qualifier. If this cognition is true, then not only the qualificand and the qualifier would be real objects in the world, but also the qualification relation would be a real relation in the world. But this cognition is false because there is no real relation between the qualificand and the qualifier. This is how Naiyāyikas like Jagadīśa have explained a false cognition. Since (1) is a false cognition, its linguistic description would be a meaningful expression. Now let us consider the proposition 'A hare's horn does not exist'. This proposition would describe the following cognition:

- (2) (a hare-individual  $R_1$  hareness) $R$  absence of (a horn-individual  $R_2$  hornness).

In (2) the qualificand is (a hare-individual  $R_1$  hareness), the qualifier is

absence of (a horn-individual  $R_2$  hornness), and the  $R$  is the qualification relation between the qualificand and the qualifier. In this case the  $R$  is a self-linking relation (*svarūpa-sambandha*). Since this cognition is true, all the elements of this cognition are real. In this cognition what is negated is not a hare's horn, but a horn and the counterpositiveness resident in a horn is limited by a limiting relation in which horn is present in the objects which have horns. Hence the expression which describes the cognition (2) is not only meaningful but also true. Similarly, the propositions 'A hare's horn is sharp' and 'A hare's horn is not sharp' can describe the following cognitions respectively:

- (3) ((a hare-individual  $R_1$  hareness)  $R_2$  (a horn-individual  $R_3$  hornness))  $R$  (a sharp-individual  $R_4$  sharpness).  
 (4) ((a hare-individual  $R_1$  hareness)  $R_2$  (a horn-individual  $R_3$  hornness))  $R$  absence of (a sharp-individual  $R_4$  sharpness).

In this case both (3) and (4) are false, because of the fact that the  $R_2$  whose first member is (a hare-individual  $R_1$  hareness) and whose second member is (a horn-individual  $R_3$  hornness) is unreal. Since one of the elementary cognitions is false, the complex cognition as a whole might be considered as false. Hence the propositions which describe (3) and (4) are considered as false. In this respect the Nyāya analysis of an empty term is similar to Russell's theory of descriptions. According to both of them any significant proposition of the form ' $\phi a$ ', where ' $a$ ' is an empty term, is not atomic in nature. Russell analyses a proposition of this form into a conjunctive proposition, but the Nyāya analyses the cognition described by such a proposition into a set of elementary cognitions. But according to both of them if one of the elements is false, then the whole thing is false.

#### (F) The Nature of the Negation.

Now let us discuss whether on the Nyāya theory, negation is a term-negation or a sentence-negation, or a propositional function-negation.

According to the Nyāya what is negated is an object which is the second term of a dyadic relation. A relation can be negated if it becomes the second term of another relation. Let us consider the form ' $aRb$ ', where  $a$  is the first term,  $b$  is the second term and  $R$  is a relation. What can be negated is  $b$  as *the second term of the relation  $R$* . To say that 'the counterpositiveness resident in  $b$  is limited by the limiting relation  $R$ ' is equivalent to saying that

' $b$  is the second term of the relation  $R$ '. So what is negated is  $b$  as the second member of the relation  $R$ . The negation of (i)  $aRb$  can be represented by the following form:

(ii)  $a S_1 ((\overset{R}{b})\text{-neg})$ , where  $a$  is the first term of the self-linking relation  $S_1$ , and  $((\overset{R}{b})\text{-neg})$ , i.e. the negation of  $b$  such that the counterpositiveness resident in  $b$  is limited by the limiting relation  $R$ , is the second term of the self-linking relation  $S_1$ . The negation of  $aRb$ , according to the Nyāya, cannot be represented by any of the following forms:

- (1)  $a R \text{ not-}b$ ,
- (2)  $a \text{ not-}R b$ ,
- (3)  $\text{not-}a R b$ ,
- (4)  $\text{not-}(aR)b$ ,
- (5)  $a \text{ not-}(Rb)$ ,
- (6)  $\text{not-}(aRb)$ .

It can only be represented by the form

- (7)  $a S_1 (\text{not-}\overset{R}{b})$ .

(7) is the same as (ii). If by a term-negation we mean an expression of the form (1) or (3), then the Nyāya concept of negation is not a term-negation. If by an element-negation we mean any expression of the form (1) to (5), then also the Nyāya concept of negation is not an element-negation. If by a proposition or sentence-negation, we mean any expression of the form (6), then also the Nyāya concept of negation is not a proposition or sentence-negation.

Moreover, it cannot be treated as a negation of a propositional or sentential function such as 'x is a man', because a propositional function is not a term of a relation. In the Nyāya form ' $a S_1 (\text{not-}\overset{R}{b})$ ', 'not- $b$ ' would be meaningful only if it is stated what it is for  $b$  to be present somewhere. That is to say,  $b$  will be locatable in some locus by some relation. If the relation in which  $b$  stands to its locus is specified, then in negating  $b$  we are negating  $b$  in that relation. If we do not consider any relation in which  $b$  can be said to be present in any locus, then the expression 'not- $b$ ' will be an empty term. But if we mean some unspecified relation in which  $b$  is present in some locus, then 'not- $b$ ' will be ambiguous. If the relation is not occurrence-exacting, then it must be an identity relation if 'not- $b$ ' is meaningful.

From the above discussion of the Nyāya theory of negation it follows that

it cannot be said to be a term-negation, or a sentence-negation, or a propositional function-negation in the usual sense of these terms. Here we have a new type of animal in our zoo.<sup>16</sup>

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## NOTES

- <sup>1</sup> It is to be noted that the expression 'a pot' is a linguistic expression of a cognition, and the expression 'potness inheres in a particular pot-individual' is an analysis of the same cognition in Nyāya terminology.
- <sup>2</sup> It is to be noted that in this context I am using the expression 'cognition' in the sense of object of cognition.
- <sup>3</sup> Matilal (1968), p. 114.
- <sup>4</sup> For a more comprehensive discussion on the preventer-prevented relation see Bhattacharyya (1974), pp. 331–334, and Matilal (1968), p. 55.
- <sup>5</sup> Raghunātha Śīromaṇi and his followers have supported this interpretation of a false cognition.
- <sup>6</sup> For a more comprehensive discussion on the Nyāya concept of pervasive occurrence see Ingalls (1951), pp. 73–74; Matilal (1968), pp. 71–72, and Bhattacharyya (1974), pp. 341–342.
- <sup>7</sup> *Bhāṣā-pariccheda* with *Siddhānta-muktāvalī*, ed. by Panchanan Bhattacharyya; p. 79.
- <sup>8</sup> Raghunātha Śīromaṇi, *Nañ-Vāda*, translated with commentary by Matilal (1968), pp. 153–154.
- <sup>9</sup> *Bhāṣā-pariccheda* with *Siddhānta-muktāvalī*, ed. by Panchanan Bhattacharyya, p. 80.
- <sup>10</sup> Strawson (1952), p. 175.
- <sup>11</sup> S. Bhattacharyya (1974), p. 341.
- <sup>12</sup> See Ingalls (1951), pp. 68–69, and Matilal (1968), pp. 109–170. See also "Double Negation in Navya-nyāya," by Matilal *Sanskrit and Indian Studies: Essays in Honor of D. H. H. Ingalls*, Reidel: Dordrecht (1980).
- <sup>13</sup> See Ingalls (1951), pp. 71–72.
- <sup>14</sup> See Matilal (1971), pp. 138–140, and Shaw (1974), pp. 332–337.
- <sup>15</sup> It is to be noted that the expression 'aRb' does not necessarily imply that there are three distinct ontological entities. When R is a self-linking relation it is identical with either of the terms or with both.
- <sup>16</sup> For some of the points mentioned in this paper, I am indebted to Professor S. Bhattacharyya. However, the faults are mine.

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