The Nyāya on Indexicals and the Quantifier 'all'

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Translator's Note:

Since this article is a part of a memorial volume, it is dedicated to the memory of my former teacher Professor B.K. Matilal.

Professor Matilal was not only a great scholar but also actively involved in editorial works and in organising conferences in the field of Indian and comparative philosophy. His work covers a wide range of topics and several systems of Indian philosophy. As a source of inspiration to us, he will always be remembered with deep gratitude and admiration.

I

The Referent of a Demonstrative Pronoun[1]

There are words like 'this', 'that', etc. which are capable of indicating any object. But they do not indicate every object on every occasion. Similarly, the word 'he' or 'she' is capable of indicating any person, although it does not indicate every person on every occasion. When a speaker uses a demonstrative pronoun, the referent of it will be the object or the person which he has cognised. In other words, a speaker after apprehending the meaning of a sentence, which he has cognised through some valid source of cognition,[2] uses a sentence with the intention of conveying his thoughts (or knowledge) to others. Hence it presupposes that the speaker has the knowledge corresponding to the sentence he uses. If the speaker cognizes the meaning of a sentence, then he has the cognition of the referents of the words upon which the cognition of the meaning of the sentence is dependent.[3] The use of a word of the speaker is due to the cognition of the referent of it. The referent of a demonstrative pronoun is the particular object of cognition of the speaker which has brought about

the use of it. For example, 'Rāma is going, look at him'. Here the referent of the word 'him' is the object of cognition of the speaker, which is Rāma in this case, and this cognition of Rāma has made him use the word 'him'. Hence the referent of a demonstrative pronoun is the object of cognition of the speaker, which has made him use this word.

Now the question is whether Rāma who is the referent of the word 'him' is qualified by the property of being the object of cognition of the speaker or by the property of being Rāma. In other words, the question is whether the limitor[4] of the property of being the referent[5] of 'him' is the property of being the object of cognition of the speaker or the property of being Rāma.[6] The word 'him' would generate the cognition of Rāma qualified by the property which is the same as the limitor of the property of being the referent of 'him'. Now if the property of being the object of cognition of the speaker[7] is the limitor of the property of being the referent of the word 'him', then the word 'him' would give rise to the cognition of Rāma qualified by the property of being the object of cognition of the speaker. On the other hand, if the property of being Rāma is the limitor of the the property of being the referent of 'him', then the word 'him' would give rise to the cognition of Rāma qualified by the property of being Rāma.

Now the critics have claimed that neither of these views is acceptable. If we admit the first alternative, then the sentence 'Rāma has come back home and he is at home' would give rise to the cognition expressible by the sentence 'Rāma has come back home and the object of cognition of the speaker is at home' as the word 'he' refers to speaker's object of cognition. If we admit this type of cognition from the former sentence, then an objection may be raised in the following way:

At the time of cognising the meaning of the sentence 'Rāma has come back home and he is at home' there cannot be any doubt whether Rāma is at home. Hence from the sentence 'He is at home' we have to admit a cognition which will prevent the occurrence of doubt whether Rama is at home. This doubt is about Rāma qualified by the property of being Rāma, and it can be prevented by a definite (certain) cognition of Rāma qualified by the property of being Rāma. Since a definite (certain) cognition of Rāma qualified by the property of being the object of cognition of the speaker cannot prevent this type of doubt, the sentence 'He is at home' should not be understood as 'The object of congnition of the speaker is at home'.

Furthermore, we do not intuitively think that the sentence 'Rāma has come back home and he is at home'generates the cognition that Rāma has come back home and object of speaker's cognition is at home. On the contrary, we think it gives rise to the cognition of Rāma has come back at home and Rāma is at home. If we admit this interpretation, then the property of being Rāma becomes the limitor of the property of being the referent of the word 'he'.

But the critics do not consider this view also to be worthy of acceptance. It is claimed that if the referent of the word 'he' is Rāma qualified by the property of being Rāma, then the word 'he', like the word 'Hari', would be homonymous. (In Sanskrit the word 'Hari' is a homonym for Viṣṇu, Indra or Candra.) For, as the word 'he' in the sentence 'Rāma has come back home and he is at home' gives rise to the cognition of Rāma qualified by the property of being Rāma, so the word 'he' in the sentence 'Śyāma has come back home and he is at home' would give rise to the cognition of Śyāma qualified by the property of being Śyāma, the word 'he' in the sentence 'Jadu has come back home and he is at home' would give rise to the cognition of Jadu qualified by the property of being Jadu, and so on. As in the case of the word 'Hari' different uses of it give rise to the cognitions of Viṣṇu qualified by the property of being Viṣṇu , Indra qualified by the property of being Indra, Candra qualified by the property of being Candra, etc., so in the case of the word 'he' different uses of it would give rise to the cognitions of Rāma qualified by the property of being Rāma, Śyāma qualified by the property of being Śyāma, Jadu qualified by the property of being Jadu, etc. Hence a demonstrative pronoun is as homonymous as the word 'Hari'.

Now the question is, what is the harm if a demonstrative pronoun is also homonymous? As an answer to this question it might be said that the referents of a homonymous word such as 'Hari' which refers to Viṣṇu, Indra and Candra can be learnt from a dictionary, but the referents of a demonstrative pronoun such as 'he', which refers to innumerable objects, each of which is qualified by the property of being a Rāma, or the property of being Śyāma or the property of being Jadu, etc. cannot be learnt from a grammar or dictionary, or by analogy, or from a statement of a trustworthy person, or from any other method of learning the referent(s) of a word.[8] The cognition of the property of being the referent of a demonstrative pronoun would have to depend on its occasion of use only. For example, a person (an elder issuer of command) utters the sentence, 'A book is on the table; please bring it here' and another person (an adult obeyer of command) brings the book. From the activity of bringing the book we

come to know that the word 'it' refers to the book in this context. But in this way it is not possible to learn all other referents of the word 'it'. Hence from the observation of different uses we cannot cognise the property of being the referent of a demonstrative pronoun as it is used to refer to innumerable aqualified objects.

As an answer to these objections the Nyāya philosophers have claimed that the referent of a demonstrative pronoun is limited by the qualifier of the cognition of the speaker, and this type of cognition of the property of being the referent is one of the causal conditions for cognising the meaning of a sentence in which a demonstrative pronoun has occurred. Let us explain this point. If a speaker uses a demonstrative pronoun, which is due to the cognition of the referent under some mode of presentation, then one of the causal conditions for the proper use of the demonstrative pronoun would be that cognition of the referent under the same mode of presentation. One of the causal conditions for the use of the word 'he' in this context is the cognition of Rāma qualified by the property of being Rāma; because the speaker, after having cognised Rāma qualified by the property of being Rāma, uses the word 'he' in order to convey the thought of Rāma qualified by the property of being Rāma. In this cognition the property of being Rāma is the qualifier.[9] The referent of the word 'he' is Rāma qualified by the property of being Rāma. Similarly, in the sentence 'Syāma has come back home, and he is at home', one of the causal conditions for the use of the word 'he' is the speaker's cognition of Syāma qualified by the property of being Syāma. In this cognition the qualifier is the property of being Syāma, and the referent of the word 'he' is Syāma qualified by the property of being Syāma. Hence if the referent of a demonstrative pronoun is the thing qualified by the qualifier of the cognition of the speaker, then the limitor of the property of being the referent is the qualifier of the cognition of the speaker. In the first example, one of the causal conditions for the use of the word 'he' is the property of being Rāma which is the qualifier of the cognition of the speaker. Hence the property of being Rāma is the limitor of the property of being the referent. In the second example, the property of being Syāma is the qualifier of the cognition of the speaker. Hence the property of being Syāma is the limitor of the property of being the referent. According to this view even if the limitors of the property of being the referent of 'he' are different, there is a property, viz., the property of being the qualifier of the cognition of the speaker, which is common to the properties such as the property of being Rāma, the property of being Syāma, etc, which are the limitors of the property of

being the referent. Hence it follows that whenever a property is the limitor of the property of being the referent of a demonstrative pronoun, it has the property of being the qualifier of the cognition of the speaker.

Now it may be said that if the referents of a demonstrative pronoun are those objects which are qualified by properties such as the property of being Rāma, the property of being Śyāma, etc, which have in common the property of being the qualifier of the cognition of a speaker, then a demonstrative pronoun cannot be treated as a homonymous word. A word does not become homonymous simply by virtue of having many referents. When the referents of a word canot be collected together by a common property, but at the same time that word is capable of referring to each of the referents independently, then it is called 'homonymous'. Since a demonstrative pronoun refers to objects which are qualified by properties such as the property of being Rāma, the property of being Śyāma, etc, which have in common the property of being the qualifier of the cognition of a speaker, by an indirect relation the property of being the qualifier of the cognition of a speaker becomes a common property of the referents.[10] This is so even though there is no common property residing in the referents by a direct relation. For this reason a demonstrative pronoun is not a homonymous word.

Now an objection can be raised in the following way. That which appears as a qualifier in the cognition of the referent of a word is called 'the limitor of the property of being the referent'.[11] If there is a further qualifier of this limitor, then it is called 'the limitor of the property of being the limitor of the property of being the referent.'[12] If a word has this type of second order limitor, then it will generate a cognition of the referent qualified by the limitor of the property of being the referent, which, in its turn, is qualified by the second order limitor, viz, the limitor of the property of being the limitor of the property of being the referent. For example, the word 'blind'. The referent of it is any individual (or person) qualified by the absence of vision. Here the absence of vision is the limitor of the property of being the referent. Since vision is the qualifier in this absence, it is the limitor of the property of being the limitor of the property of being the referent. Hence the word 'bline' gives rise to the cognition of a person qualified by the absence which is qualified by vision. Similarly, if the referent of a demonstrative pronoun such as 'he' is Rāma qualified by the property of being Rāma, which is qualified by the property of being the qualifier of the cognition of the speaker, then the word 'he' would give rise to the cognition of the person qualified

by a property which is qualified by the property of being the qualifier of the cognition of the speaker.[13] Hence the sentence 'He is at home' would generate a cognition of the following form:

The person qualified by a property which is qualified by the property of being the qualifier of the cognition of the speaker is at home.

If it were so, this cognition does not really amount to a definite cognition of the presence of Rāma at home, who is qualified by the property of being Rāma. Hence the previous doubt about the presence of Rāma at home cannot be prevented by the above cognition generated by sentence 'He is at home'.[14]

As an answer to this objection the Nyāya philosophers have said that in the case of a demonstrative pronoun such as 'he' the property of being the qualifier of the cognition of a speaker is not a qualifier of properties such as the property of being Rāma. In fact, the property of being the qualifier of the cognition of the speaker is merely an indicator (*upalakṣaṇa*) or an introducer of a collection of discrete properties such as the property of being Rāma, the property of being Śyāma, etc, each of which is a limitor of the property of being the referent of the word 'he'. Hence the property of being the qualifier of the cognition of the speaker is not a second order limitor of the property of being the referent of the word 'he'. That which is not a part of the content of understanding (or cognition) due to an expression, but helps in cognising the referent of it, is called 'an indicator' or introducer.[15] Consider the example, 'The crow-possessing house is the house of Devadatta'. In this case the property of being the crow-possessing house indicates the house of Devadatta, although it is not an essential and unique property of the house. Similarly, in the case of a demonstrative pronoun the property of being the qualifier of the cognition of the speaker helps in understanding or cognising the referent of it, although this property is not a part of the object of cognition (or what has been cognised) which is due to a demons-trative pronoun. For this reason the property of being the qualifier of the cognition of the speaker is called 'an indicator'.[16]

But according to Gadādhara Bhaṭṭācārya even if we do not accept the property of being the qualifier of the cognition of the speaker as an indicator property which is common to the limitors of the property of being the referent, it is possible, by an inference, to cognise the property of being the referent of a demonstrative pronoun in unknown objects or persons. He has said that we can cognise the

property of being the referent of a demonstrative pronoun from its usage.[17] For example, when we hear sentences such as 'Rāma is at home, tell him to come here', and 'Śyāma is at home, give him some clothes'; and observe the corresponding actions of the doer, we cognise the property of being the referent of 'him' in Rāma and Śyāma respectively. Moreover, from the context of utterance the hearer can understand that Rāma and Śyāma respectively are the objects of the cognition of the speaker. Afterwards, from the observation of the co-presence of the property of being the object of the cognition of the speaker[18] and the property of being the referent of a demonstrative pronoun, and from the non-observation of the presence of the former and absence of the latter in some loci such as Rāma and Śyāma we come to know that the property of being the object of the cognition of the speaker is pervaded by the property of being the referent of a demonstrative pronoun. This is how we come to know that smoke is pervaded by fire from the observation of the co-presence and from the non-observation of the presence of smoke and the absence of fire in some loci such as kitchen.[19] Later on, in an object or person where we have not yet cognised the property of being the referent of a demonstrative pronoun we can infer this property from the observation of the property of being the object of the cognition of the speaker in the same object or person. Hence the pervader property is being inferred from the pervaded property.[20] For example, from a context such as 'A pot is in the kitchen, please bring it here', we come to know that a pot is the object of the cognition of the speaker. Since the pot has the property of being the object of the cognition of the speaker, we can infer the property of being the referent of the demonstrative 'it' in the same pot qualified by potness. In this way when we come to know from a context the pervaded property of being the object of the cognition of the speaker in a qualified object,[21] we infer the property of being the referent of a demonstrative pronoun in the same object.

The previous objection that the property of being the referent of a demonstrative pronoun canot be known since a demonstrative pronoun can be used to refer to any object cannot be raised against the view of Gadādhara even if it is a homonymous word such that its referents cannot be known from a dictionary. This is due to the fact that the property of being the referent of a demonstrative pronoun can be inferred from the property of being the object of the cognition of the speaker. Since there are different objects of cognitions, which are causally related to different uses of a demonstrative pronoun, there are different referents for a demonstrative pronoun and

different limitors of these referents. This is due to the fact that the referent of a demonstrative pronoun would be the object, the cognition of which is a causal condition for the use of that demonstrative pronoun. Hence if we know the causal condition for its use, then we come to know its referent. Therefore the homonymous character of a demonstrative pronoun cannot be avoided, but it cannot prevent us from knowing the property of being the referent of a demonstrative pronoun.[22]

The Referent of the Personal Pronoun 'I'

As we have admitted different referents of a demonstrative pronoun, so we have to admit different referents of the personal pronoun 'I'. The word 'I' refers to a self. But, unlike the word 'self' which refers to any self, the word 'I' does not refer to each and every self. The word 'I' refers to the self that is the agent responsible for the utterance of the word 'I'.[23] For we cognise the property of being the agent of going in a person who has uttered 'I am going' when we hear this sentence, and we do not cognise this property in a person who has not uttered the word 'I'. If the word 'I' would have referred to any self, then any self would have been cognised from the above sentence. Since this does not happen, the referent of 'I' is the self of its utterer. For this reason different referents of the word 'I' are to be admitted depending on different utterers. Hence the self which is the agent of the utterance of the word 'I' is the referent of it.

Now the question is, who is the referent of the word 'I' when a student addressing his class-fellows says, "The teacher said, 'I shall not be going to the school today'"? In this case the utterer of the word 'I' is a student. But he cannot be the referent of the word 'I' as he is present in the school. If the utterer of 'I' is the referent, then in the above sentence the student should be its referent.

In reply to this objection it has been said that the self which is the agent of the independent utterance is the referent of the word 'I'. As an explanation of 'independent utterance' it has been said that the word 'I' is independent if it has occurred in a sentence which is not the object of the verb of another sentence. The utterance of 'I' in a sentence of this type is an independent utterance. The self which is the agent of this type of independent utterance is the referent of the word 'I'. Hence in sentences such as 'I am going', 'I' is independent, and the agent utterance of 'I' is the referent. But in the sentence "The teacher said, 'I shall not be going to the school today,", the sentence 'I shall not be going to the school today' has occurred as the

object of the verb of another sentence, and hence this utterance of the word 'I' is not independent. Since this utterance of 'I' is not independent, the student who is the utterer of the word 'I' is not the referent of it.

Another objection has been raised in the following way.When someone, addressing a person under a vow of silence or a dumb person, says, "This person thinks 'I am very intelligent'"[24] he is indicating the silent or the dumb person by the word 'I'. But a silent or a dumb person is not the user of the word 'I' as he will not or cannot utter any word. Hence the referent of 'I' cannot be its utterer, and the view that the referent of the word 'I' is its utterer is not tenable in this case.

In order to answer these objections Gadādhara Bhaṭṭācārya has said that there are two types of the use of the word 'I', viz, the word 'I' which is uttered independently and the word 'I' which is not uttered independently. The referent of 'I' which is uttered independently is the user of it, but the referent of 'I' which is not uttered independently is the agent of the verb, the object of which is the meaning of the sentence which contains the word 'I'. In the above example, the meaning of the sentence 'I shall not be going to the school today' is the object of the action signified by the verb 'said' which has occurred in the sentence "The teacher said, 'I shall not be going to the school today'". Since the teacher is the agent of the act of saying, he is the referent of the word 'I'.

In the case of the sentence "This person thinks, 'I am very intelligent'", which is about a silent or a dumb person, the meaning of the sentence 'I am very intelligent' is the object of the activity of thinking. Hence the activity the object of which is the meaning of the sentence that contains the word 'I' is the activity of thinking of the silent or dumb person. Since the silent or the dumb person is the agent of this activity, he is the referent of the word 'I'.

The Referent of the Personal Pronoun 'You'

As the word 'I' refers to different persons on different occasions, so does the word 'you'. The referent of the word 'you' is the person addressed. The referent of 'the person addressed' is the person who is intended by the user of a sentence in which the word 'you' occurs. In other words, the referent of the word 'you' is the person about whom the speaker uses a sentence which contains the word 'you'. Hence the referent of 'you' is the person who is addressed in sentences like 'you go', 'you eat', etc.

An objection similar to that raised against the word 'I' can also be raised against the word 'you'. For example, a student addressing his teacher, said, "My father said, 'you meet the teacher'". If the referent of 'you' is the person addressed, then the teacher is the referent of 'you'. But instead of the teacher being the referent of 'you' the student who is the speaker is the referent of 'you' in this example. Hence the view that the referent of 'you' is the person addressed is not tenable.

But this objection can also be answered in the way we have answered the previous objection. In other words, there are two types of the uses of the word 'you', viz, when the word 'you' is uttered indēpendently, and when the word 'you' is not uttered independently. If the word 'you' which occurs in a sentence the meaning of which is not the object of another sentence, then it is called "an indeependently uttered 'you'". The referent of this type of 'you' is the person who is being intended by the user of a sentence which contains the word 'you'. But the word 'you' which occurs in the sentence "The father said 'you meet the teacher'" is not of this type. This is because the object of the sentence 'The father said' is the action of meeting with the teacher that is being conveyed by the sentence of his father 'you meet the teacher' in which the word 'you' occurs. Hence it is not a case of independent utterance of 'you'. The referent of this 'you' is not the person addressed by its speaker. For this reason the teacher who is being addressed by the student is not the referent of the word 'you'. But the word 'you' which has occurred in a sentence such as 'you go', the meaning of which is not the object of any other sentence, is uttered independently. Hence the referent of this type of 'you' is the person intended by the speaker, who is to be cognised. But in the case of the word 'you' which is not being uttered independently, the referent is the self which is an object of the action signified by the verb of another sentence such that the meaning of the sentence in which the word 'you' occurs is another object.[25] What the father wanted to convey is the meaning of the sentence 'you meet the teacher' which contains the word 'you', and which has occurred in the sentence "The father said, 'you meet the teacher'". Hence the meaning of 'you meet the teacher' is the object of the action of saying expressed by the word 'said'. But the action of saying has another sort of object. This type of object is the person who has been addressed by using the sentence 'you meet the teacher'.

Hence in the obove example one of the objects is the content of 'you meet the teacher'. Since this sentence has been used to address his son, the other object is the son. Hence the person who is the son

in this case and who is one of the objects of the action of saying is the referent of the word 'you' which has not been uttered independently, and which has occurred in a sentence the meaning of which is another object of saying.

II

The Referent of the Word 'all'[26]

In a sentence, such as 'All substances are knowable' or 'All substances have knowability', the word 'all' has been used as a qualifier of the subject substances. The referent of the word 'all' is the thing qualified by the property of being without remainder (*aśeṣatvaviśiṣṭa*). Now the question is, what is the nature of the referent of 'the property of being without remainder'? As regards the nature of this property it has been said that if we know this property, then we know the predicate in every subject which is qualified by the limitor of the property of being the subject.[27]

But even this explanation does not help us in comprehending the property of being without remainder. For this reason Gadādhara Bhaṭṭācārya has proposed a new definition of the property of being without remainder. According to him the property of being without remainder is to be considered as a number which is the same as the property of being the collection (*yāvattva*), and this number is the pervader (*vyāpaka*) of the limitor of the property of being the subject, and the pervaded (*vyāpya*) of the predicate.[28] This number is the limitor of the property of being the referent of the word 'all', and the collection is the referent of it.[29] Hence this number is the same as the property of being all (*sarvatva*), and the referent of the word 'all' is the collection of things which are qualified by this number which is the same as the property of being without remainder.[30]

The word 'all' which has occurred in the sentence 'All substances have knowability'[31] signifies a collection qualified by the property of being the collection (i.e. a number) which is the pervader (*vyāpaka*) of substancehood that is the limitor of the property of being the subject. Since substancehood is present in every substance, the property of being the collection (i.e. the number) which is present in every substance can be the pervader of substanehood. Again the same property of being the collection is the pervaded (*vyāpya*) of the predicate knowability. Since the property of being the collection (ie a number) is the pervaded of knowability, knowability is the pervader of this property of being the collection. From this it follows that the

property of being the collection is the pervader of substancehood
and the pervaded of knowability. Hence if the property of being the
collection is known as the pervader of substancehood and as the
pervaded of knowability, then knowability will be cognised in every
substance.[32]

If the property of being the collection did not have the qualifier
the property of being the pervaded (vyāpyatva)[33] of the predicate,
then the word 'all' would apply to subjects which do not have the
predicate and hence sentences such as 'All pots are blue' or 'All pots
have blue colours'[33a] would be true even if there are pots which are
not blue. If we say 'All pots have blue colours', then a pot is the
subject, potness is the limitor of the property of being the subject, and
a blue colour is the predicate. If the property of being the collection
is considered as the pervader of potness only and not as the pervaded
of the predicate, then this sentence would be true even if there are
pots which do not have blue colours. Since the property of being the
collection is present in every subject, a blue pot would also be a
subject. As the sentence 'Some pots have blue colours' is true by
virtue of the fact that a blue colour is present in a pot, so the sentence
'All pots have blue colours' would be true if the blue colour is present
in a pot which is qualified by this type of property of being the
collection.[34] But if we apply the qaualifier the property of being the
pervaded of the predicate to the property of being the collection,
then there is no scope for this type of unsatisfactory use of the word
'all'.[35] For, the property of being the collection which is the pervader
of potness resides in every pot, and it cannot be the pervaded of blue
colours as this property of being the collection is present in a red or
white pot.

Similarly, if we do not apply the qualifier: the pervader of the
limitor of the property of being the subject, to the property of being
the collection, the previous unsatisfactory use of the word 'all' will
occur again. Consider, again the sentence 'All pots have blue colours'.
Here also a blue colour is the predicate, but the property of being
the collection which is the pervaded of this predicate is present in
every blue pot and absent from all other things. In other words, the
property of being the collection is present in blue pots only. In this
case the property of being all is this property of being the collection
which is a number. Hence the loci of this property of being the
collection would be blue pots only and these pots are qualified by
potness which is the limitor of the property of being the subject. Since
these pots have blue colours, the sentence 'All pots are blue' would be
true.[36] But this is obviously false.This unsatisfactory use of the word

'all' can be avoided if we apply the qualifier the property of being the pervader of the limitor of the peoperty of being the subject to the property of being the collection. For the property of being the collection, which is the pervaded of the predicate blue colours only, cannot be the pervader of potness which is the limitor of the property of being the subject as potness is present in a red or white pot which does not have this property of being the collection.

From the above discussion it follows that if there is a property of being the collection which is the pervader of the limitor of the property of being the subject and the pervaded of the predicate, then we have to understand that the predicate is in every subject. Hence through this understanding of the word 'all' we come to cognise the predicate in every subject.

Now let us consider the word 'all' which is the qualifier of the predicate. Here also the referent of 'all' is a collection and the limitor is the property of being the collection which is a number. But the property of being the collection is the pervader of the limitor of the property of being the predicate and the pervaded of the relation of the subject to the predicate.[37] Let us consider the sentence 'Time has all properties'. Here a property is the predicate, and the word 'property' ('*dharma*') refers to a superstratum.[38] The property of being the property (*dharmatva*) or the property of being the super-stratum (*ādheyatva*)[39] is the limitor of the property of being the predicate. Since the property of being the collection is the pervader of the property of being the superstratum (*ādheyatva*), it is present in every superstratum. Again, this property of being the collection is the pervaded of the relation of time which is the subject to its predicate, because the temporal relation is present in every property. Therefore, since the property of being the collection is the pervader of the property of being the property (*dharmatva*), it is present in every property; and since this property of being the collection is the pervaded of the relation of time to its predicate, the temporal relation is present in every property which is the locus of the property of being the collection.[40] Since we can derive 'All properties are present in time' from 'Temporal relation is present in all properties', the sentence 'Time has all the properties' (or 'Temporal relation is present in all properties') would ultimately generate the cognition of all properties are in time.[41]

If we do not apply the qualifier the property of being the pervaded of the relation of the subject (to its predicate) to the property of being the collection, then we get an unsatisfactory use of 'all' in sentences such as 'This moment of time has all the properties'.

Although everything is in time, the things which are not contempo-
raneous with the present moment do not reside in it. Hence the non-
contemporaneous properties do not reside in the present moment.
Hence the sentence 'This moment of time has all the properties' is
false. But if the referent of the word 'all' is simply the collection of
things qualified by the property of being the collection which is the
pervader of the limitor of the property of being the predicate, then
this sentence would be true. This is because the present moment is
the subject, a property is the predicate, the limitor of the property of
being the predicate is the property of being the property
(dharmatva), the property of being the collection which is the
pervader of the property of being the property is present in every
property, and the relation of this moment to the predicate qualifies
some of the properties which are qualified by the property of being
the collection.[42] Hence as we assert the sentence 'A pot has a colour'
from the observation of a few colours in some pots, similarly on this
account we ought to assert the sentence 'This moment of time has all
the properties' from the fact that some properties which are
predicates and qualified by this type of property of being the
collection are present in this moment. But this type of unsatisfactory
consequence can be avoided if we apply the property of being the
pervaded of the relation of the subject (to the predicate) to the
property of being the collection. For, the property of being the
collection which is the pervader of the property of being the property
(dharmatva) is also present in a past and future property, and it is not
the pervaded of the relation of this moment to its predicates. Hence
this property of being the collection is also present in a past and a
future property which do not have the relation of the present
moment to those properties. Here it is not possible to have a
property of being the collection, which is the pervaded of the relation
of the subject (to the predicate), and the pervader of the limitor of
the property of being the predicate. Hence this use of the word 'all' is
unsatisfactory.

Again, we cannot avoid the above difficulty if we simply claim that
the property of being the collection is the pervaded of the relation of
the subject to its predicate.[43] For, the relation of the subject (to its
predicate) is present in those properties which reside in this moment.
Hence the property of being the collection which is present only in
those properties is the pervaded of the relation of the subject (to its
predicate). Since the things qualified by this type of property of being
the collection are those properties which are present in this moment,
the sentence 'This moment has all the properties' would be true. But

this type of unsatisfactory assertion can be avoided by using the qualifier the property of being the pervader of the limitor of the property of being the predicate. For, the property of being the collection which is the pervaded of the relation of the subject (to its predicate) is one which is present only in those properties which reside in this moment, and this property of being the collection cannot be the pervader of the limitor of the property of being the predicate as this limitor is present in past and future properties also. Hence, in the above example, the property of being the collection, which is both the pervaded of the relation of the subject (to its predicate) and the pervader of the limitor of the property of being the predicate, will not be exemplified.

To sum up, the word 'all' which is a qualifier of a subject-expression signifies the presence of the predicate in every subject, and the word 'all' which is a qualifier of predicate- expression signifies the presence of every predicate in the subject . This has been explained by applying the pervader-pervaded relation to the property of being the collection, which is the limitor of the property of being the referent of the word 'all'.

<div align="center">EXPLANATORY NOTES</div>

1. Here the author uses the word 'tatpada' which includes not only demonstrative pronouns such as 'this' or 'that', but also third person personal pronouns such as 'he' or 'she'. Since the words 'this person' or 'that person' can be used instead of 'he' or 'she', the latter would receive the same analysis as the former. In this paper the author is discussing both the referent and the meaning of a pronoun. Here the word 'meaning' will mean the mode of presentation of the referent, which will determine the referent, or the reason for applying an expression to the object(s) to which it, applies. The author uses the words 'Śakya' and 'śakyatāvacchedaka'. The former may be translated as 'referent' and the latter as 'the limitor of the property of being the referent'. The limitor will determine the referent(s) of an expression but it can not be equated with the sense of Frege.

2. If the meaning of a sentence is cognised through some valid source of cognition, and free from defects, then it amounts to knowledge. The Nyāya philosophers have accepted perception, inference, analogy and testimony as valid sources of cognition.

3. The Nyāya has drawn distinctions among the terms 'sentence' ('vākya'), 'meaning of a sentence' ('vākyārtha'), and 'cognising the meaning of a sentence' ('vākyārthabodha' or 'śābdabodha'). A sentence is a set of morphemes which are related to each other in accordance with the syntax of language. According to the Nyāya conception of a sentence any well-formed expression which consists of at least two morphemes is a sentence. If we apply the Nyāya definition of a sentence to English expressions such as 'cooks', 'cooked', 'a cook', 'the cook', 'cooks rice', etc, then they would be considered as sentences. As regards meaning, the Nyāya claims that the meaning of a sentence as distinct from the meanings of the words which have

occurred in it lies in the relation between the referents of its two parts. The cognition of this relation is due to syntactic expectancy between its two parts. Hence the meaning of the entire sentence together with the meanings of its parts is not just a function of the meanings of the words which have occurred in it. We cognise the meaning of a sentence as distinct from the cognition of the meanings of its parts, when we cognise the relation between the referents of its two parts.

4. The word 'limitor' ('avacchedaka') is a technical term of the Nyāya and it has been used in different senses in different contexts. The use of it in this context may be defined in the following way:

x is limited by y iff (a) x and y are properties, (b) x is a relational property, and (c) y is a mode of presentation of the object or determines the object where the relational property x resides.

5. 'The property of being the referent' ('vācyatā') is also a technical term of the Nyāya. If something is a referent of a term, then it has the property of being the referent. It is a type of relational property of the referent. By introducing this type of property the Nyāya emphasizes the role of the object as referent of the term.

6. As regards the property of being Rāma which is the limitor, there is some difference of opinion among the Nyāya philosophers. We may come across five different views in the Nyāya literature.

(a) Some Navya-Nyāya philosophers have treated it as a class- character which is on a par with a universal such as cowness. As the term 'cow' refers to a set of particular cows in which cowness resides, so the name 'Rāma' refers to a set of Rāma-individuals in which the property of being Rāma resides. These, of course, are individual *bodies*. Hence the word 'Rāma' refers to a series of Rāma – body – individuals such as the Rāma of boyhood, the Rāma of adulthood, the Rāma of old age, etc. According to this interpretation a proper name such as 'Rāma' is on a par with a general term.

(b) According to the second view, the property of being Rāma is not a class-character or a universal. Moreover, it cannot be identified with any property expressible by a definite description such as 'the eldest son of Daśaratha' or 'the husband of Sītā'. Jagadīśa in the context of his discussion on *Pakṣatā* has pointed out that the property of being Rāma is the individual Rāma as the second term of the relation of identity, the first term of which is also Rāma. Hence the second view defines the property of being Rāma in terms of the relation of identity of Rāma. In this context it is to be noted that according to the Nyāya every object has its own relation of identity.

(c) According to some other Nyāya philosophers such as Raghunātha, the property of being Rāma cannot be identified either with Rāma or with any other category of the Nyāya system. It is a separate irreducible category by itself.

(d) According to another interpretation, the property of being Rāma is a function of the uniquenesses of the parts of Rāma. Since the ultimate parts of any created object have their own uniquenesses, the uniqueness of a created object is to be explained as a function of the uniquenesses of its parts and ultimately in terms of the uniquenesses of its irreducible parts.

(e) Following Raghunātha the role of an indicator (*upalakṣana*) may be assigned to the property of being Rāma. An indicator is something which fixes or indicates the referent of a term. In this sense any referential definite description of Kripke or Donnellan, which fixes the referent of a proper name, may serve as the property of being Rāma. Hence this view will equate the property of being Rāma with any

contingent property of Rāma so long as it can be used to fix the referent of 'Rāma'.

7. Here 'the object of cognition' should not mean any object of cognition. By the word 'cognition' we refer to the cognition of the speaker, which is a causal condition for the use of the word 'him'. Now we have to take into account the object of this cognition. The relation of this cognition to its object would be the property of being the object of this cognition, and this property is being considered as the limitor of the property of being the referent of 'him'.

8. In this context it is to be noted that the Nyāya philosophers have admitted several ways of learning the referent (s) of a word, such as vṛddhavyāvahāra (the usage of words by the elders), āptavākya (a statement of a trustworthy person), vyākaraṇa (grammar), upamāna (analogy), kośa (dictionary), vākyaśeṣa (the rest of the sentence), vivṛti (explanation), 'siddhapadasānnidhya (proximity of words, the referents of which are already known). Although several methods of learning the referents of a word have been recognised, the method of learning from the usage of elders is considered as the primary and the most effective means of learning the referent (s) of an expression.

9. The Nyāya has accepted a distinction between a qualificative and a non-qualificative cognition. A qualificative cognition can be expressed by the form 'aRb' where a is the qualificand, b is the qualifier, and R is the qualification relation between them. If Rāma has been cognised under the mode of the property of being Rāma, then Rāma is the qualificand, the property of being Rāma is the qualifier, and the relation of the latter to the former is the qualification relation. But in a non-qualificative cognition the ultimate elements of a qualificative cognition are cognised by themselves.

10. This argument exhibits the following form: If a is related to b by relation R, and b is related to c by the relation S, then a is related to c by the relation R/S which is an indirect relation in the Nyāya system. Hence if the property of being the qualifier of the cognition of a speaker is related to the property of being Rāma by the relation R, and the property of being Rāma is related to Rāma by the relation S, then the property of being the qualifier of the cognition of a speaker is related to Rāma by the relation R/S.

11. In this context the author is emphasizing only the epistemic aspect of a limitor. Hence our above definition of a limitor is to be presupposed in this discussion.

12. Here the Nyāya has introduced two relational properties, viz, the property of being the referent and the property of being the limitor, to emphasize the role of these entities. In a simpler way it may be said that the referent is determined by the first order limitor and the first order limitor is determined by the second order limitor.

13. This view has been put forward to avoid the homonymous nature of a demonstrative pronoun. If it is claimed that a particular use of 'he' would give rise to the cognition of Rāma qualified by the property of being Rāma, which is qualified by the property of being the qualifier of the cognition of its utterer, and another use of 'he' would give rise to the cognition of Śyāma qualified by the property of being Śyāma, which is qualified by the property of being the qualifier of the cognition of its utterer, and so on, then again the previous objection that it is a homonymous word cannot be avoided. Hence in order to avoid this objection it is claimed that the word 'he' gives rise to the cognition of the person who is qualified by a property which is qualified by the property of being the qualifier of the cognition of the speaker. Here the referent of 'he' is a particular person and the limitor of the property of being the

referent is the property which is qualified by the property of being the qualifier of the cognition of the speaker.

14. It is to be noted that the property of being the qualifier of the cognition of the speaker, which (cognition) is one of the causal conditions for the use of the word 'he', is a common property which is related to the referents of 'he' by an indirect relation; but it cannot be taken as the limitor of the referents (or the property of being the referents). If it is taken as the limitor, then 'He is at home' would generate the cognition of 'The qualifier of the cognition of the speaker is at home'. This interpretation would be similar to the previous interpretation 'The object of the cognition of the speaker is at home'. None of them can rule out the possibility of doubt about Rāma's being at home when it is said, 'Rāma has come back home, and he is at home'. In order to prevent this doubt if the word 'he' is interpreted as 'the person qualified by the property of being Rāma, which is qualified by the property of being the qualifier of the cognition of the speaker', then the word 'he' becomes homonymous, and it will have as many limitors as there are referents.

There is another alternative interpretation which is equally untenable. According to this interpretation the limitor is the property of being the qualifier of the cognition of the speaker, but the referents are Rāma qualified by the property of being Rāma, Śyāma qualified by the property of being Śyāma, and so on. If we accept this view, then the property of being Rāma which has been mentioned in the referent or 'he' cannot be cognised as such. It requires a mode of presentation. Moreover, the referents of 'Rāma' and 'he' in the sentence 'Rāma has come back home, and he is at home' would not be the same. The referent of the former is Rāma, while the referent of the latter is Rāma qualified by the property of being Rāma. Furthermore, the sentence 'he is at home' is to be interpreted as 'the qualifier of the cognition of the speaker is at home'. Since these two sentences do not give rise to the same cognition, the previous doubt about the presence of Rāma at home cannot be prevented.

15. The function of an indicator is similar to that of a referential definite description of Donnellan and Kripke. It helps in picking out an object even if it is not a necessary property of the object or it is not satisfied by the object. Hence definite descriptions such as 'the muderer of Smith' or 'the man over there with champagne in his glass' are considered as indicator-expressions.

16. According to this view also there would be different referents of the word 'he' and different limitors of the property of being the referent depending on the context of utterance and the speaker. The referent of 'he' will be the person qualified by a property which is indicated by the property of being the qualifier of the cognition of the speaker, and the limitor will be the property which is indicated by the property of being the qualifier of the cognition of the speaker.

According to this view also a demonstrative pronoun will be a homonymous expression and the problem of learning the meaning of it cannot be solved as it can be used to refer to any object and the mode of presentation of one object (limitor) will not be the same as the mode of presentation of another object.

17. In this context 'the property of being the referent of an expression' needs further explanation, since this property is the probandum (or the inferred entity) of an inference. Let us consider the word 'Tom'. The property of being the referent of 'Tom' is the property of being the qualificand residing in the qualificand of the intention of the speaker, which takes the following form: Let Tom be the object of cognition generated by the word 'Tom'. In this intention Tom is the qualificand and the property of being the object of cognition generated by the word 'Tom' is the

qualifier. Since Tom is the qualificand, it has the property of being the qualificand. This property of being the qualificand is determined by the property of being the object of cognition generated by the word 'Tom'. Similarly, the property of being the referent of a demonstrative pronoun is the property of being the qualificand residing in the qualificand of the intention of the speaker, which takes the following form: Let such and such object be the object of the cognition generated by a demonstrative pronoun.

18. In this context it is to be noted that Gadāhara has mentioned the property of being the object of cognition of the speaker and not the property of being the qualifier of the cognition of the speaker. In the cognition of the speaker of the sentence 'Rāma has come back home, and he is asleep', the person Rāma as well as the limitor, viz, the property of being Rāma, are the objects, but the latter is the qalifier in this cognition and the referent of 'he' is Rāma, not the property of being Rāma. Since the property of being the referent of 'he' resides in Rāma which is the object of the cognition of the speaker and since the cognition of Rāma is one of the causal conditions for the use of 'he' Rāma has both the property of being the object of cognition which is a causal condition for the use of 'he' and the property of being the referent of 'he'. Hence 'the object of cognition' means "the object of cognition of the speaker, which is a causal condition for the use of the word 'he'."

19. According to the Nyāya an inference necessarily involves three terms. One of them represents the inferred entity and it is called 'probandum' ('*sādhya*'); the other term represents the locus of the inferred entity and it is called 'subject' ('*pakṣa*') of the inference. In the inferential cognition the latter is the subject and the former is the predicate. Another term represents the mark or the reason for the inferred entity and it is called 'probans' ('*hetu*') of the inference. On the basis of the cognition of probans in the locus and the cognition of pervasion relation of probandum to probans, we infer the probandum in the same locus.

In the case of Gadāhara's example, Rāma or Śyāma is the locus, the property of being the object of cognition of the speaker, which is a causal condition for the use of the demonstrative pronoun, is the probans, and the property of being the referent of the demonstrative pronoun is the probandum

20. In contexts such as '(x) (If x is F, then x is G), F is the pervaded and G is the pervader, and the relation of G to F is called 'pervasion' ('*vyāpti*'). 'The property of being the pervaded' ('*vyāpyatva*') signifies the property of being the first term of this pervasion relation, and 'the property of being the pervader' ('*vyāpakatva*') signifies the property of being the second term of this pervasion relation.

21. According to the Nyāya in a qualificative cognition expressible by a sentence of the form 'a is F' or 'a is related to b', the objects of cognition such as a, b, and F are presented under some mode of presentations. Hence the object of cognition referred to by the word 'a pot' in the sentence 'A pot is in the kitchen' is presented under some mode of presentation. For this reason it is called 'a qualified object'.

22. Gadāhara's view emphasises the homonymous character of a demonstrative pronoun and the method of learning the referents of it. There are innumerable referents of a demonstrative pronoun and there are innumerable limitors of these referents. But this does not prevent us from knowing the referents of it. By means of a rule we come to know the property of being the referent of a demonstrative pronoun on a particular occasion of its use. This rule takes the form 'If x is the object of the cognition of the speaker, which is a causal condition for the use of a demonstrative pronoun, then x is the referent of it'. Moreover, this rule has been learnt from the

observation of different uses of a demonstrative pronoun. But the meaning of a demonstrative pronoun has not been equated with this rule. According to the Nyāya the meaning of an atomic expression is to be stated in terms of an ordered triple such that the first member is the referent(s) of it, the third member is the limitor of the property of being the referent, and the second member is a relation which relates the latter to the former.

23. If the meaning of an atomic expression or word is an ordered triple such that the first member is the referent, the third member is the limitor and the second member is the relation of the latter to the former, then the meaning of 'I' would be the ordered triple such that the first member is the agent responsible for the utterance of 'I', the third member is the property of being the agent responsible for the utterance of 'I' and the second member is the relation of the latter to the former.

24. Here by the sentence 'I am very intelligent' the person is describing the cognition of the dumb or reticent person. In other words, what the speaker is saying is what a dumb or a reticent person would have said of himself if he could have expressed his cognition or thought.

25. The Nyāya claims that in such cases the action signified by a verb such as 'said' which has occurred in the sentence 'The father said' has two objects such that one of them is the meaning of the sentence in which the word 'you' has occurred and the other one is the person addressed. In this example the son is the person addressed. Hence he is another object of the verb 'said'.

26. Here the author is discussing both the referent and the limitor or the mode of presentation of the referent of the word 'all' This discussion will also draw the distinction in meaning between 'All S is P' and 'Whatever is an S is P' or 'If x is S, then x is P'.

27. Let us apply this definition of the property of being *without remainder* to the example 'All substances are knowable'. If we know this property, then we come to know the predicate knowability in the subject substances which are limited by substancehood. In other words, we come to know that a substance which is qualified by substancehood has the predicate knowability.

28. This point can be explained in the following way. Let us consider F as the limitor of the property of being the subject, G as the property of being the collection, and H as the predicate. What has been said here can be expressed in the following way: (x) $(F x \supset G x)$ and (x) $(G x \supset H x)$. The property of being without remainder has been explained in terms of the property G.

29. In this context it is to be noted that the Nyāya analysis of a universal sentence such as 'All men are mortal' is different from that of contemporary logic. In classical symbolic logic both 'All men are mortal' and 'whoever is a man is mortal' are symbolised as (1) (x) $(H x \supset M x)$, where 'H' stands for humanity and 'M' for mortality.

According to the Nyāya 'whoever is a man is mortal' might by symbolised by (1), but not the sentence 'All men are mortal'. The latter involves a reference to a collection and thereby the property of being the collection which is a particular number. Hence the sentence 'All men are mortal' might be symbolised by (2) (x) $(Hx \supset G x)$ and (x) $(G X \supset M x)$, where 'H' stands for humanity, G for a particular number which is unique to the members of that collection, and 'M' for mortality. Hence the meaning of 'All men are mortal' cannot be identified with that of 'whoever is a man is mortal'.

30. According to the Nyāya a number is both a property of the collection and a

quality of the members of the collection. The same number is related to the collection by one relation, but it is related to its members by another relation. If the members of a collection are substances, then it is related to them by the relation of inherence, but it is always related to the collection by a self-linking relation which is called 'paryāpti' in the technical language of the Nyāya.

31. The Nyāya has drawn a distinction in meaning between 'All substances are knowable' and 'All substances have knowability', although they have the same truth-value. In the sentence 'All substances are knowable', the subject is any substance and the predicate is a knowable object and the relation is one of identity. That is to say, the substances are to be identified with knowable objects, though not with all knowable objects. But in the sentence 'All substances have knowability', any substance is the subject and knowability is the predicate, and the relation of the predicate to the subject is a self-linking (svarūpa) relation. Hence the relations are not the same in these two sentences.

32. This point can be explained in the following way. Let us consider F as substancehood, G as the property of being the collection which is a number and H as knowability. What the sentence 'All substances have knowability' says can be expressed in the following way:

(a) (x) $(Fx \supset Gx)$ and (x) $(Gx \supset Hx)$

Here F is the pervaded of G and G is the pervader of F. Similarly G is the pervaded of H and H is the pervader of G. Hence G is the pervaded in relation to F and the pervader in relation H. Therefore, if we know that G is the prevader of F and the pervaded of H, then we come to cognise that H is present in the locus of F. In other words, since (b) (x) $(Fx \supset Hx)$ follows from (a), the knowledge of (a) will yield the knowledge of (b).

33. Properties such as the property of being the pervaded (vyāpyatva) and the property of being the pervader (vyāpakatva) are considered as relational properties in the Nyāya system. In a sentence such as (x) $Gx \supset Gx)$, F is the pervaded property and G is the pervader property. Hence F has the property of being pervaded and G has the property of being pervader.

33a. (editor's note): The plural in "blue colour" is deliberate, since, according to Nyāya, each pot has a distinct blue colour as colours are qualities specific to substances and not universals.

34. If we do not apply the qualifier the property of being the pervaded of the predicate to the property of being the collection, then the sentence 'All pots have blue colours' can be made true provided the property of being the collection is the pervader of potness and a pot has a blue colour. In other words, if (x) $(Fx \supset Gx)$ is true and (x) $(Fx.Bx)$ is true, then the sentence 'All pots have blue colours' would be true, where F is potness, G is the property of being the collection, and B is a blue colour. But if we consider the property of being the collection as the pervaded of the predicate also, then this sentence would be false as there are pots (qualified by the property of being the collection) which do not have blue colours. In other words, the sentence 'All pots have blue colours' would be false due to the falsity of (x) $(Gx \supset Bx)$.

35. In other words, if we apply the qualifier: the property of being the pervaded of the predicate to the property of being the collection, then we can demonstrate the falsity of the sentence 'All pots have blue colours'. Since we cannot claim that both (x) $(Fx \supset Gx)$ and (x) $(Gx \supset Bx)$ are true, the sentence 'All pots have blue colours' would be false, where 'F' stands for potness, 'G' for the property of being the

collection which resides in every pot, and '*B*' for a blue colour.

36. Here also the sentence 'All pots have blue colours' would be true if we do not apply the qualifier the property of being the pervader of the limitor of the property of being the subject to the property of being the collection. But the condition which would make this sentence true by virtue of this use of the word 'all' would not be the same as the condition which would make the same sentence true by virtue of the previous use of the word 'all'. This sentence would be true because of the truth of $(\exists x)$ $(Fx.Gx)$ and (x) $Gx \supset Bx$. If the property of being the collection resides in blue pots only, then (x) $(Gx \supset Bx)$ would be true. Since potness resides in any pot, $(\exists x)$ $(Fx.Gx)$ would also be true. hence the referent of 'all' in this case would be the collection of blue pots only, but the referent of 'all' in the previous case would be the collection of pots. Therefore, there are three cases depending on the nature of the property of being the collection.

(a) When the property of being the collection is both the pervader of the limitor of the property of being the subject and the pervaded of the predicate, the sentence such as 'All pots are blue' would be false. Hence the symbolic counterpart of this sentence, namely, (x) $(Fx \supset Gx)$ and (x) $(Gx \supset Bx)$, is false.

(b) When the property of being the collection is only the pervader of the limitor of the property of being the subject, the sentence 'All pots are blue' would be true and its symbolic counterpart would be

(x) $(Fx \supset Gx)$ and $(\exists x)$ $(Fx. Bx)$

(c) When the property of being the collection is only the pervaded of the predicate, the sentence 'All pots are blue' would be true and it can be represented by the sentence

$(\exists x)$ $(Fx.Gx)$ and (x) $(Gx \supset Bx)$

In this context it is to be noted that the referent of 'all' in both (a) and (b) would be the collection of pots, but in (c) it would be the collection of blue pots.

37. Now the author is discussing the use of the word 'all' which is a qualifier of a predicate. Here also the referent is a particular collection and the limitor of the property of being the referent is a particular number. This number resides in the collection as a whole by the relation of *paryāpti* which is a type of self-linking (*svarūpa*) relation, and it is also related to each of the members of this collection or class by the relation of inherence. This property of being the collection which as is a particular number hàs two more qualifiers. (a) It is the pervader of the limitor of the property of being the predicate. In other words, it resides in every predicate, where the term 'predicate' refers to *things*. (b) It is also the pervaded of the relation of the subject to ·the predicate. In other words, wherever this property of being the collection is present, this relation of the subject to the predicate is also present.

In this context it is to be noted that according to the Nyāya in a sentence such as '*S* is *P*', both '*S*' and '*P*' would refer to entities and the word 'is' signifies a relation. If the relation of *P* to *S* is *R*, then the relation of *S* to *P* would be the converse of *R*; and the *R* would reside in *S* and the converse of *R* would reside in *P*. But if a term of sentence is empty or the relation does not hold, the sentence would be false.

38. According to the Nyāya a property is something which resides somewhere. Hence it can be defined in the following way:

P is a property Df($\exists x$) (x) is a locus of *P*)

39. According to the Nyāya the property of being the superstratum (*ādheyatva*) and the property of being the substratum (*ādhāratva*), or the property of being the property (*dharmatva*) and property of being the property-possessor (*dharmitva*) are

correlative relational properties. As regards the ontological nature of these properties, there is some difference of opinion among the Nyāya philosophers. According to some Nyāya philosophers they are to be considered as self-linking (*svarūpa*) relations. Hence the terms for such properties do not refer to separate ontological entities. But according to some other Nyāya philosophers, such as Raghunātha, these properties are separate ontological entities and hence they cannot be identified with something else.

40. This point can be explained in the following way: Let us consider F as the property of being the property or the property of being the superstratum, G as the property of being the collection which is a number, and H as the relation of time to its predicate. The symbolic counterpart of the sentence 'Time has all the properties' may be expressed in the following way:

(x) $(Fx \supset Gx)$ and (x) $(Gx \supset Hx)$

Here also the Nyāya explains the use of the word 'all' which qualifies a predicate in terms of three properties and the relation of pervader-pervaded among them.

41. Here the author has indicated the following points which are important for a theory of meaning and transformation:

(a) The sentence 'Time has all the properties' means 'Temporal relation is present in all the properties.'

(b) The sentence 'Time has all the properties' is transformationally related to the sentence 'All properties are in time'.

(c) If we understand the meaning of one of the sentences mentioned in (b) and know the rules of transformation, then we can cognise the meaning of the other.

From the above remarks it would follow that a sentence such as 'S is P' means the same as 'S has the relation of P'. In other words, when we say that a predicate is ascribed to a subject, what we mean is that the relation of the predicate to the subject holds good or the relation is present in the subject. Hence the sentence 'S is P' is to be understood as '$S R P$' such that R characterises S. If P is related to S by R, then S is related to P by the converse of R. Hence P is characterised by the converse of R. Therefore, the sentence 'Time has all the properties' of 'Temporal relation is present in all the properties' is transformationally related to the sentence 'All properties are in time'. If 'Time has all the properties' is symbolised as (i) (x) $(Fx \supset Gx)$ and (x) $(Gx \supset Hx)$, where 'H' stands for the relation of the subject (ie Time) to the predicate (ie the property), and 'All properties are in time' is symbolised as (ii) (x) $(Fx \supset Gx)$ and (x) $(Gx \supset Tx)$, where 'T' stands for the relation of the predicate to the subject, then it follows that one is derivable from the other.

According to the Nyāya the meaning of a sentence as distinct from the meanings of its terms lies in the relation between the referents of its terms, Moreover, since the relation is to be taken along with its direction, the relation signified by the sentence 'Time has all the properties' is not the same as the relation signified by the sentence 'All properties are in time', although they are related by the rules of transformation. Hence the meaning of one cannot be identified with that of the other.

42. If we do not apply the qualifier the property of being the pervaded of the relation of the subject to the predicate to the property of being the collection, then the sentence 'This moment of time has all the properties' can be made true by virtue of the truth of (x) $(Fx \supset Gx)$ and $(\exists x)$ $(Gx.Hx)$, where 'F' stands for the limitor of the property of being the predicate, 'G' for the property of being the collection which is a number, and 'H' for the relation of this moment to a property which is in this moment.

43. Here also it has been shown that if we do not apply the qualifier the property of being the pervader of the limitor of the property of being the predicate to the property of being the collection, then the sentence 'This moment of time has all the properties' can be made true by virtue of the truth of $(\exists x)$ $(Fx.Gx)$ and (x) $Gx \supset Hx)$. In this case the property of being the collection which is a number would characterise the properties which are present at this moment. Hence the properties which are characterised by this type of property of being the collection would be characterised by the relation of this moment to its predicate. Hence the referent of the word 'all' in this case would be the collection of properties which are related to this moment, but in the previous cases the referent of 'all' would be the collection of past, present and future properties. Therefore, here also there are three cases depending on the nature of the property of being the collection.

(a) If the property of being the collection is both the pervader of the limitor of the property of being the predicate and the pervaded of the relation of the subject to its predicate, then the sentence 'Time has all the properties' (or 'Temporal relation characterises all the properties') would be true, and the sentence 'This moment of time has all the properties' would be false. This is due to the fact that.

(x) $(Fx \supset Gx)$ and (x) $(Gx \supset Hx)$ is is true.

(b) If the property of being the collection is only the pervader of the limitor of the property of being the predicate, then the sentence 'This moment of time has all the properties' would be true due to the fact the (x) $(Fx \supset Gx)$, and $(\exists x)$ $(Gx.Hx)$ is true. But the referent of the word 'all' in both (a) and (b) would be the same. That is to say, the referent would be the collection of past, present and future properties.

(c) If the property of being the collection is only the pervaded of the relation of the subject to its predicate, then also the sentence 'This moment of time has all the properties, would be true. This is due to the fact that $(\exists x)$ $(Fx.Gx)$ and (x) $(Gx \supset Hx)$ is true. Here the referent of 'all' would be the collection of present properties or the properties which are related to this moment.