

THE NYĀYA-VAIŚEṢIKA THEORY OF UNIVERSALS

I. STATEMENT OF THE THEORY

The Nyāya theory of universals is unambiguously realistic and its realism is evident from the way a universal (*sāmānya* or *jāti*) is defined. A universal is defined as “an entity that is eternal and inseparably inherent in many entities”.¹ Since a universal is an eternal entity that is present in many particulars, it is clear that a universal is conceived to have an ontological status that is distinct from and independent of that of the particulars themselves. Thus in the Nyāya view there is an identical cloth-ness in all pieces of cloth, an identical humanity in all human beings; and the entitative status of these universals is not affected by the origin and destruction of particulars to which they may be related.

The relation between a universal and its particulars (called *samavāya*, which for want of anything better, we have translated as the relation of ‘inseparable inherence’) is held to be of a unique kind and sharply distinguished from ordinary relations like that of contact (*saṃyoga*) between two substances, relations of magnitude (*parimāṇa*), spatial and temporal relations, etc. This relation is held to be an ‘inseparable relation’ (*ayutasiddhavyṛtti*) in the sense that one of the two relata, viz., the particular, has necessarily to remain related to the other relatum, viz., the universal, until it is destroyed. The necessity and inseparability of the relation is, therefore, only in one direction and not in both directions; and in fact it has been specifically mentioned that a universal would persist, even if all objects belonging to the class happened to be destroyed.² There is no reason to confuse this relation with an internal relation as has been done by modern interpreters³, because the necessity of the relation is only in one direction and not in both directions.

As for the evidence in justification of the above theory, one common argument is derived from ‘the notion of sharing a common character’ (*anugatapratīti*). Thus in the Nyāya view, though individual human beings differ from one another in innumerable respects, we discern a common element of humanity running through all of them, though it may not be always possible to specify in words what that common element is. It is argued that in the absence of any compelling evidence to the contrary, such knowledge of identity (which presumably is present in every human mind) has to be

regarded as true, whence the admission of universals as real entities becomes necessary as the objective basis of such knowledge of identity. On the ground of this knowledge of identity, we classify objects (in a broad sense) into different natural kinds, e.g., man, horse, colour, sound, etc. Without the admission of universals, such classification has to be regarded as ultimately arbitrary and conventional.

A second argument concerns the significance of general words in our language. A general word like 'horse' or 'colour' refers to an unlimited number of objects and an explanation is needed as to how a word is capable of doing so. An explanation may be found if universals are admitted to be objectively real. A distinction has to be made between the *śakya* or denotation and *śakyatāvachedaka* or connotation⁴ of a word. Then it may be said that a general word connotes a universal and it is able to denote an unlimited number of objects, because the universal is present in all of them. Without admitting universals it would be difficult to explain how the relationship between a word and the unlimited number of objects it may denote happens to be established.⁵

A third argument concerns the justification of causal laws. The statement of a 'causal law' (*sāmānyakāranatā*) implies that every object of a certain kind (and nothing else) is the cause of a particular kind of effect. Thus when we determine fire to be the cause of smoke what we mean is that all fires (of a certain kind) are causes of smoke and that nothing but fire is the cause of smoke. As the Nyāya would say, 'the property of being the cause of smoke' (*dhūmakāranatā*) is possessed by all fires and by nothing else. But how should we explain (from the philosophical point of view) the fact that all objects of a certain kind become the cause, and nothing else becomes the cause? According to the Nyāya, the only way to explain this rationally is to suppose that all those objects share a common characteristic by virtue of which they can become the cause, and since this characteristic is not possessed by other kinds of objects, they do not become the cause. The admission of such common characteristics shared by many objects, however, amounts to the admission of universals.⁶

A fourth argument, closely related to the previous one, concerns the justification of 'inductive generalisation' (*vyāptigraha*). A causal law is a general statement which involves a generalisation from the observation of a limited number of particular instances. The problem is to justify the 'inductive leap' from the observation of a limited number of cases to the

generalisation which covers not only cases observed, but also all possible cases, past, present and future. It is argued that a solution to the 'problem of induction' is found by admitting universals as real entities. Then it may be said that from an observation of particular instances we are able to see the connection between the universal properties involved; and the generalisation to all cases would be justified, because identical properties are present in all cases.⁷

On the basis of the arguments (rather superficially) outlined above, the Nyāya considers it necessary to admit the existence of universals as objectively real entities which are distinct from, and independent of, particulars themselves. The range of universals admitted to be objectively real is rather comprehensive. There are first of all what may be called generic universals, i.e., universals whose instances are individual substances (*dravya*), for example, man, horse or stone. There are, secondly, the qualitative universals, i.e., universals whose instances are qualities (*guṇa*), for example, colour, sound or shape. The notion of quality (*guṇa*) is very broad in Nyāya metaphysics. Thus in addition to ordinary qualities of physical objects, there are qualities of the 'soul', such as pleasure, pain, desiring, hating etc., and there are universals corresponding to these qualities as well as to physical qualities. Moreover, many relations, such as relations of magnitude (*parimāṇa*), the relation of contact (*samyoga*) between two substances, e.g., the book is *on* the table, relations of spatial or temporal proximity or distance etc., are brought under the head of qualities; and universals pertaining to them are also admitted to exist. Thirdly, there are universals pertaining to motion (*karma*), such as contraction, expansion, etc. Russell⁸ has noted that though philosophers have recognised universals named by adjectives and substantives, those named by verbs and prepositions have been usually overlooked. A look at the above list will show that this complaint certainly could not be brought against the Nyāya theory.

With respect to extension, universals are classified into three kinds.⁹ There is first the universal of largest extension (*parasāmānya*), viz., existence (*sattā*) in which every other universal is included. There are, secondly, universals of smallest extension (*aparasāmānya*), e.g., cowness, horseness etc. in which no other universal is included. Most universals, however, are such that while they are included in universals of larger extension, they themselves include universals of smaller extension within them. For example, the class of animals is included in the class of substances and itself includes classes like man, horse etc. within it. This classification corresponds exactly to the Aristotelian

view that except for the highest genus (*summum genus*) and the lowest species (*infimae species*), whatever is a species is at the same time a genus and whatever is a genus is also a species.

Further light may be thrown on the Nyāya theory by comparing it with similar theories in Western philosophy. The Nyāya theory should be clearly distinguished from the *Ante Rem* or Ideal theory of the Platonic type. According to the latter theory, Ideas or Forms which are the reality behind natural objects, exist eternally in the world of Being and have their shadowy manifestations in the world of Becoming. We know the ultimate Forms by *a priori* intuition and so are able to recognise their incomplete manifestations in sensible things. In the Nyāya view, however, particulars are as much real as universals themselves, and the relation between the former and the latter is that of 'inseparable inherence'. On this point the Nyāya theory is much closer to the Aristotelian theory. Thus, like Aristotle, the Nyāya would deny that there is (as stated in the tenth book of Plato's Republic) an unseen and eternal bed, or quintessential bedness, by participation in which any bed becomes a bed; but still would hold, like Aristotle, that there is an identical bedness in all beds, an identical humanity in Smith, Brown and Jones, and the relation between such identities and particulars to which they belong is not merely accidental, but necessary (in the sense specified above).¹⁰

Moreover, Aristotle distinguishes between primary and secondary beings (substances) and holds that though an individual man or horse is a primary being, the species man or horse is a secondary being. Thus the universal, for Aristotle, could not exist as an individual, a primary being, exists. The individual cannot be repeated, and cannot be common to many. Consequently, that which is universal and common to many cannot *be* in the sense in which the individual is. Turning now to the Nyāya theory we find that a distinction is made between *sattā* and *bhāvatva*, which may be translated as 'existence' and 'being' respectively. It is held that though universals have *bhāvatva* or being, they do not have *satta* or existence; while particulars have both 'being' and 'existence'. The distinction between 'existence' and 'being' is not at all clear and would require careful research to be spelled out exactly. But one thing that is clear is that though universals and particulars are both real, Nyāya is making a distinction between the ontological status of the two, a distinction which is a permanent part of Aristotle's teaching. It may also be noted that Russell¹¹ distinguished between 'existence' and 'subsistence' and held that while particulars exist, universals subsist or have being, where

subsistence is opposed to existence as being timeless.

For Aristotle, however, a universal is an abstraction and therefore non-sensible. Both it and its relations are apprehended by reason. (In Plato's view also Ideas or Forms are non-sensible and can be grasped only by *a priori* intuition.) But in the Nyāya view most universals (with the exception of universals like 'atomness', 'soulness' etc.) are known through sense perception. Thus in the Nyāya view, when three different pots are presented together in perception, we may observe that all of them share a common character, viz., pot-ness. The Nyāya does not deny that dispositional elements are present, both in the recognition of the common character and in the observation that two or more objects have the same character. But in either case, none of this makes the discovery less of a discovery. Again, in the sense of singling one element out of what is given, abstraction is necessarily present in the discovery of a common character like colour. We concentrate upon the colour in noticing that the colour in three different objects is one and the same, and single it out for observation. But such observation does not involve abstraction in another sense, viz., framing an abstract complex idea. In the Nyāya view a universal is not an abstraction in the latter sense, and this is true not only for qualitative universals like colour, sound, etc., but also for generic universals like horseness and cowness. Thus cowness is a simple, indivisible element that is present in every cow and is directly apprehended at the moment an individual cow is perceived. The Nyāya view on this point is quite uncompromising; the reason behind this view is that predicates such as 'cow', 'horse', etc. are regarded as simple and unanalysable, as are qualitative predicates like 'red', 'blue', etc. In fact in the Nyāya view it is only a simple predicate that could name a universal. If a predicate were complex and made out of simpler concept, it could not name a universal because the universal is a unitary entity devoid of any parts. Thus cowness is not a complex idea formed by putting together the common features of different individual cows. On this point the Nyāya view is diametrically opposed to the Lockean view that general ideas such as 'cow', 'man', etc., are framed through a process of conceptual combination. As already said, if a general idea is formed through a process of conceptual combination, then in the Nyāya view, it cannot be the name of a universal. On the other hand cowness, humanity, etc. are simple properties and discovered directly through sense perception.

This also shows how different the Nyāya view is from the Aristotelian view regarding the relation between a genus and its species. In Aristotle's

view the essence of the species man, for example, is constituted by the genus animality together with the specific difference rationality. Thus in Aristotle's view the relation between a genus and its species is necessary, the genus constituting a part of the essence of the species. In the Nyāya view, however, both humanity and animality are simple concepts. The relation between the two is not necessary in the Aristotelian sense, because animality is not a part of the concept of man.

This difference has resulted in a basic difference between the theories of definition of Nyāya and Aristotle. In Aristotle's view a definition must be the statement of essence, the statement *per genus et differentiam*. In the Nyāya view, such essential definition of terms like cow and man is impossible. On the other hand, according to the Nyāya, a definition is the statement of a 'unique characteristic' (*asādhāranadharmā*), i.e., a characteristic which is present in every member of the class of objects to be defined and not present in anything else.¹² The genus is never included in a definition since a genus is not a unique characteristic in the above sense. Moreover, such a unique characteristic does not have to be essential in Aristotle's sense, but may very well be accidental. For example, cow is defined as that which has a dewlap. Now dewlap is a unique characteristic of cows in the sense specified, and hence this definition is satisfactory from the Nyāya point of view. But a dewlap is still an 'accident' and hence for Aristotle this definition is not satisfactory. In Aristotle's view the aim of a definition is to state what the definiendum really is. In the Nyāya view the aim of definition is much more modest. The aim is to differentiate the definiendum from everything else and be able to use words unambiguously. Both of these two aims are fulfilled by the statement of a unique characteristic.

Another peculiarity of the Nyāya theory must now be stated. To a Western realist a quality is a repeatable character, such as the colour blue. Nyāya, however, distinguishes between particular qualities (*guṇa*) which are not repeatable and common qualities which are repeatable. Thus each blue substance is connected with its own blue colour which is not shared at all and is as particular as the substance itself; all these distinct blue colours are connected in turn to the shared universal blueness. Just as there is a class of men so there is a class of 'blues' and the members of this class are not blue substances, but the distinct blue colours themselves. A similar distinction is made for relations. There are relation-particulars as well as relation-universals; and relation-universals have as their members the relation-particulars and not the relata

themselves. It may be noted that whether qualities and relations of particular things are particular or universal is a controversial question in contemporary philosophy.¹³ The Nyāya position in this controversy would be that in one sense all qualities and relations of particular things are also particular. But particular qualities and relations may themselves be classified under common qualities and relations and these latter are all universal.

II. OBJECTIONS TO THE THEORY BY OTHER SCHOOLS

The Nyāya theory of universals came under serious criticism from many other schools of Indian philosophy; criticisms often followed the pattern of criticisms of realistic theories in Western philosophy. The Nyāya argued that different individuals are known to be identical in certain respects and universals must be admitted as the basis for this knowledge of identity. The Sāṃkhya challenged what is being assumed in this argument, viz., that different individuals are known to be identical in certain respects. It was objected that different individuals are not known to be identical but only known to be similar in some respects. Three different pots may be known to be similar to one another because all of them have a similar colour, say, red. And the colour in respect of which these are similar is also not the identical colour in all of them. The colour of the first pot is as particular as the pot itself and is only similar to the colour of the second pot. At this point it was held by Śālikanātha¹⁴ of the Mīmāṃsā school that what different individuals really have in common is similarity or resemblance. Hence it is enough to admit resemblance (*sādrśya*) itself as a distinct entity and thus get rid of the innumerable universals hypostatized in the Nyāya theory.

The controversy of similarity vs identity was carried on indefinitely and we will only briefly indicate how the Nyāya defended its position. It was argued that mere similarity is not enough because "individuals of different kinds are also known to be similar".¹⁵ The point here is that 'belonging to the same class' or 'being of the same kind' is a much stricter notion than being merely similar. For example, a chimpanzee may be said to be similar to an orangutang, but it would be improper to say that the same relationship holds between a chimpanzee and another chimpanzee. It is also unwarranted to regard similarity as a distinct entity, because similarity between two entities always reduces to their having certain characteristics in common.¹⁶ When, however, we come to consider the common characteristics themselves, it goes

contrary to experience to insist that these characteristics are merely known to be similar and not identical. Let us consider two pots having exactly the same shade of red. In such a case the redness in the first instance of red is experientially indistinguishable from that of the second instance of red. One may say that the first red is distinguishable from the second red, because they are after all in different places. But that is completely beside the point. Nyāya grants that as an instance of red the first red is different from the second. What is indistinguishable are not the instances of red, but what they are instances of. When we consider what they are instances of, we have to ask whether they are instances of the same shade or not? If they are not, the point is irrelevant. If they are, then what makes them instances of the same shade must be the presence of that shade in each. To insist on mere similarity with respect to the shade is to insist on a difference that is not discernible and, therefore, has no empirical evidence to back it up.

The most persistent critics of the Nyāya theory were the Buddhists who pointed to a series of difficulties in the Nyāya theory. Granted that the universal is a distinct entity, it has to be asked whether it is present in a particular in its entirety or only in part. Neither alternative is acceptable. If the universal is present in its entirety in one of the particulars, it could not be present in other particulars. Nor can we say that it exists in a particular only in part, because it, *ex hypothesi*, is simple and partless. It may be noted that this objection is basically the same as that raised by Parmenides against the doctrine of Forms in the dialogue *Parmenides* of Plato.¹⁷

Again, if the universal is distinct from particulars, it becomes necessary to explain how the universal comes to be related to a new-born particular, e.g., a cow. We cannot say that the universal has moved from the place where it already existed to the place where the cow is born, because a universal is not a substance; and according to the Nyāya, only substances are capable of motion. Nor can we say that cowness already existed at the place where the cow was born, because then it should have been perceived there even before the cow was born. It is also not possible for us to say that cowness also originated at the same place along with the cow, because, by hypothesis, it is eternal. In a word, the admission of universals as distinct entities raises difficulties about the relationship between the universal and particulars.¹⁸

Moreover, the Nyāya argued that universals must be admitted on the basis of the notion of belonging to the same class. It was pointed out that this argument is inconclusive, because there are cases where we do have the

notion of belonging to the same class but no common simple character may be found to be possessed by all members of the class. For example, let us consider the class of cooks. As Ashoka Pandita said: "Though with reference to many individual cooks, there is a common notion of all of them being a cook, there is nothing which may be common to all of them."¹⁹ Ashoka Pandita disposes of the suggestion that what individual cooks have in common is the act of cooking and shows by detailed analysis that there is no common simple character possessed by all cooks. Whatever may be the merit of the actual example chosen, the important point scored by the Buddhist is that if we could speak of the class of cooks without requiring a common character, why could we not do so with respect to other classes like man, horse etc.?

The Buddhists held that all that exist are particulars and that universals are nothing but 'conceptual constructions' (*vikalpa*). A radically different explanation of the significance of general words was also given. When we apply a general word, such as *cow*, to an individual cow, we do not mean that it is of the same kind as other cows. What we really mean is that it is different from everything that is other than a cow. By applying the word *cow*, we rule out the application of other words such as *horse*, *man*, etc. and differentiate the object from every non-cow. Thus a general word primarily has a negative meaning signifying 'differentiation from others' (*anyāpoha*) and not a positive meaning signifying 'belonging to the same class' as in the Nyāya view.²⁰

The Nyāya replied that before we can differentiate cow from every non-cow, we must already know what is meant by *cow*. The concept of cow is part of the concept of differentiation from every non-cow and is logically presupposed by the latter. The Buddhist analysis of the meaning of general words does not succeed in dispensing with the positive meaning of them, but rather confirms it. In fact the analysis is vitiated by circularity. As Jayanta remarks, "If the meaning of cow is to be ascertained through the negation of non-cow, circularity is inevitable. 'Cow' is to be ascertained through negation of non-cow, but negation of non-cow is possible only through an ascertainment of what cow is."²¹

As to the difficulties raised, the Nyāya position is that they are due to a misunderstanding of the nature of universals. When it is asked whether a universal resides entirely or partially in a particular, it is presupposed that a universal must reside either entirely or partially in a particular. But "Cowness is neither a substantial whole (*avayavi*), nor an aggregate; the word 'part' applies to members of an aggregate or to elements of a substantial whole; the

word 'entire' applies to such members or elements when all of them are taken together without a remainder. Cowness is neither an aggregate nor a substantial whole; hence the words 'entire' and 'partial' are not applicable to it."²² Thus by a subtle analysis the objection is removed by showing that the alternatives contemplated are not applicable to universals at all.

The other difficulty is also due to not realising the basic difference between a universal and a particular. A particular cannot exist at more than one place at the same time; but a universal, by hypothesis, is capable of residing at many places at the same time. So the natural thing to say is that a universal 'resides in all objects belonging to the class' (*svaviśayasarvagata*). So the universal also resides in a new member that happens to be added to the class by being produced and there is nothing mysterious or problematic about it. When an object is produced, 'the sum total of causal conditions' (*kāraṇasūmagrī*) determines its nature and thus to which class it should belong or what kind it should be. So if somebody chooses to wonder how the relationship between a universal and a new member of the class is established, the answer is that it is the causes producing the object that establish the relationship between it and the universal.²³

As to the remaining objection the Nyāya firmly held to the position that the admission of universals for man, cow, etc., was justified on the basis of experience. Thus at the time of perceiving two individual men, we directly observe that both share the common property of humanity and this kind of direct experience cannot be nullified by an appeal to cases like the class of cooks. The Nyāya, however, conceded the point that there are cases where in spite of the 'notion of belonging to the same class', no universals could be admitted. We must distinguish between general terms such as *man*, *cow*, etc. which name universals and other general terms such as *cook*, *father*, etc. which do not name any universals. In fact the Nyāya held that before a universal is admitted on the basis of the knowledge of identity, we must ascertain that no violation has been made of any of the 'restrictive conditions for universals' (*jātibādhaka*) to the discussion of which we now turn in the following section.

III. RESTRICTIVE CONDITIONS FOR UNIVERSALS

Granted that there are universals, an important problem for the realist is to determine whether there are universals answering to every common name, and if not, how the population of the world of universals can be limited to

what is reasonable. This problem has figured prominently both in Plato's philosophy and in Nyāya. We may first briefly indicate Plato's position regarding this problem.

It is asserted in the *Republic*²⁴ that there is an Idea corresponding to every common name, but there are substantial grounds for doubting whether Plato ever seriously upheld this doctrine. There is first the question whether in Plato's view there are ideas corresponding to negative terms such as not-man, not-beautiful etc. Plato's view on this point is not altogether free from ambiguity. In the *Sophist* he seems to be saying that there is an Idea corresponding to not-beautiful as much as there is one corresponding to beautiful. But in the *Politics* he says in a definitive way that though terms like not-Greek, 'not-ten-thousand' stand for parts of the genera man and number, they do not stand for species of them, implying that there is no Idea of not-Greek or of not-ten-thousand. Secondly, in the *Parmenides*, upon being asked by Parmenides Socrates says that though he recognises Ideas of goodness, beauty, justice, etc., he is more hesitant about the recognition of Ideas of man, fire, water, etc. and that he definitely does not admit ideas of mud, dirt and hair. This is followed by Parmenides' remark that Socrates' refusal to recognise the latter Ideas is due to philosophical immaturity and that he should recognise them following the general principle. This exchange of opinion between Parmenides and Socrates indicates that though Plato found it necessary to admit ideas for ethical and aesthetic values, he was probably more doubtful about extending the theory of Ideas to such 'unpleasant' and 'trivial' things as mud, dirt, etc. It seems that the basic reason for the theory of Ideas was to provide an objective foundation for art and morality as well as an objective foundation for knowledge (which prompted admission of Ideas for mathematical objects). From this point of view Plato was doubtless less concerned with things like mud and dirt, because they are, after all, not objects of knowledge in the stricter Platonic sense of knowledge that is necessarily true. Thirdly, it becomes clear from the remarks of Aristotle that some Platonists held that there are Ideas only of substances and that there are no Ideas of such artificially produced things as house, ring, etc.

All this evidence suggests that according to Plato and some Platonists there is not a universal answering to every common name – a view very clearly and unambiguously upheld by the Nyāya. One basic restrictive condition as already mentioned is that a universal must be simple, i.e., it must not be analysable into other properties or property components. For

this reason a general term like *cow* or *man* would stand for a universal, but not terms like *white man* or *black cow*. The latter terms represent 'complex properties' (*sakhandopādhi*) and do not name additional, ontologically distinct entities. That is to say, the property of being a black cow is not an additional entity over and above blackness and cowness, but is reducible to them. For the same reason negative terms such as not-man, not-red, etc., do not stand for universals. Any negation presupposes an idea of what is negated and hence cannot be regarded as simple. Moreover, many terms such as deafness, blindness, etc. which do not have the form of a negative term, but are negative in meaning, also do not stand for universals. (These terms are comparable to privative terms of Aristotelian logic.) Similarly, relative terms like father, brother, etc. cannot be said to stand for universals, because from the very nature of the case they cannot be regarded as simple.²⁵

A second restrictive condition is that whenever a universal is admitted, the relationship between it and its particulars must be 'necessary' or 'inseparable' in the required sense. For example, let us consider the class of cooks mentioned earlier. Though we can speak of a class of cooks, 'cookness' or the property of being a cook is not a universal because the relationship between it and the individuals is not necessary, but accidental.

A third restrictive condition is as follows. Two universals may be so related that the first is included in the second, i.e., every member of the first is a member of the second, e.g., humanity and animality. Again, two universals may be so related that neither is included in the other, e.g., cowness and horseness. It is held that in the latter case two such universals could not have any members in common; in other words, there must not be any cross-division or over-lapping of universals. So two universals may have some members in common if and only if the first is included in the second or vice versa.²⁶

A fourth restrictive condition is that no universal can be admitted where the admission would result in violation of the essential nature of members. Thus no universal can be admitted to be shared in common by the so-called 'ultimate individuators' (*viśeṣa*) which are held to be self-differentiating and which are hypostatised to differentiate qualitatively indistinguishable atoms from one another. (Atoms cannot be held to be different from one another without such hypostatised individuators, because it would have followed by an application of the principle of identity of indiscernibles that atoms which are qualitatively indistinguishable are all one and the same.) Objects of the

same kind can always be differentiated from objects of other kinds through their difference in kind. Thus a cow can be differentiated from a horse through the universal cowness possessed by the former and not possessed by the latter. If all ultimate individuators are held to be of one kind sharing a common universal, we would also have to hold that they could be differentiated from other entities through the universal possessed by them. But that would be contrary to the essential nature of ultimate individuators, viz., that they are self-differentiating. (It is also necessary to hold that they are self-differentiating. If we ask how an ultimate individuator can be differentiated from another ultimate individuator and postulate that they are distinguished from each other through another ultimate individuator, we would be hurried off into a vicious infinite regress.) Hence the admission of no such universal can be allowed.

According to a fifth restrictive condition, if two universals have exactly the same members, they are not two different universals, but one. For example, potness and 'conch-shell-like-neck-ness' (*kambugrīvādimatva*) are instantiated in exactly the same entities, viz., pots, and hence there are not two different universals corresponding to them, but one. It is obvious that this restrictive condition states what is basically the same as the thesis of extensionality for sets in modern set theory. This restrictive condition was introduced by Udayana, the last great logician belonging to the school of early Nyāya, and in all probability he is the first logician to have formulated the extensionality thesis²⁷ This restrictive condition, however, reflects an important change in the concept of a universal. While in the early Nyāya view a universal is understood as a class-property or a repeatable character, because of this restrictive condition a universal (*jāti*), for Udayana, comes to be regarded as a class in extension. In fact Udayana held that as an 'abstract property' (*upādhi*), 'conch-shell-like-neck-ness' is different from potness. This shows that Udayana distinguished between a universal (*jāti*) or a class in extension and an abstract property (*upādhi*), a distinction which is never made in earlier Nyāya philosophy. It appears that in Udayana's view corresponding to the same class in extension, there may be more than one abstract property, a view which is also upheld by many modern logicians.²⁸ In fact, in the process of discussing the restrictive conditions, Udayana threw new light on the problem of universals and opened up a whole new perspective as may be seen from the account of the following restrictive conditions.

A sixth restrictive condition is that no universal can be admitted to exist,

the admission of which would lead to a vicious infinite regress. For this reason there can be no universal of which every universal is a member; for if we had any such universal, then, by hypothesis, we have a given totality of all universals that exist and all of them belong to this big universal. But this universal is itself a universal and hence (since it cannot be a member of itself, because in Udayana's view no universal can be a member of itself) it too along with others must belong to a bigger universal and so on ad infinitum. What is said here has interesting analogues in modern set theory in which it is held that a set of all sets (i.e., a set to which every set belongs) does not exist. And the reason why the set of all sets cannot exist is similar to that given here, viz., that if such a set existed, it must itself belong to a still larger set and this process will be continued ad infinitum; so that in a certain sense it must be larger than itself, which is a contradiction.²⁹

Udayana of course has no objection to infinite regress as such, but does object to infinite regress of a certain kind which he considers to be vicious. An infinite regress is vicious if it makes the 'basis of the regress' (*mūla*) impossible. Thus the infinite regress arising in the case of the universal of all universals is vicious, because what the regress essentially proves is that we could never have such a universal of all universals. There are other cases of infinite regress which are not vicious in the above sense. For example, if one asks whether the tree is the cause of the seed or the seed is the cause of the tree, one would find oneself thrown into a regress that is unstoppable. This regress is not vicious, because in this case the regress starts only after supposing that the tree or seed already exists. The situation is different with the universal of all universals. Here we could not suppose that it already exists because the very concept of a universal of all universals commits us to an infinite regress. In fact if we could suppose that the universal of all universals already exists, the regress would not have started at all.³⁰

A seventh restrictive condition is that no universal can be admitted where the relation of 'inseparable inherence' (*samavāya*) between the putative universal and its members could not be admitted to be possible. We know that the relation between a universal and its members is called the relation of 'inseparable inherence'. We could ask whether there is a universal which has inseparable inherence as a member, and the answer is said to be no. The reason why the answer is no is that the relation of inseparable inherence could not be admitted to be possible between the universal and inseparable inherence itself. For suppose that the relation of inseparable inherence is possible in a

given case. Then we have to suppose that inseparable inherence is related to the universal by inseparable inherence. But the latter is also a member of the universal and hence it also must be related to it by inseparable inherence and so on to a vicious infinite regress. The vicious infinite regress makes the admission of the relation of inseparable inherence impossible in the given case and that in turn rules out the admission of the universal. It is probable that there are cases where the relation of inseparable inherence would be impossible for reasons other than vicious infinite regress and probably that is why this restrictive condition has been stated separately as an additional restrictive condition and not a sub case of the previous one.

On this point too we can see an interesting parallel in modern set theory. The relation between a set and its elements is the relation of membership. As it was asked whether there is a universal whose member is inseparable inherence, so it may be asked whether there is a set whose member is membership and the answer is no. This set may be expressed in set-theoretical terms as the set of all ordered pairs $\langle x, y \rangle$ such that $x \in y$, which may be written with the standard notation as follows: $\{\langle x, y \rangle \mid x \in y\}$. Assuming that this set exists, we can talk about its domain D : $D \{\langle x, y \rangle \mid x \in y\} = \{x \mid \exists y (x \in y)\}$. But given any set x , it is a member of some set, e.g., $\{x\}$. From this it follows that $\forall x \exists y (x \in y)$; from which it follows that $\forall x x \in D$.

Thus D is proved to be the universal set which as already seen in the discussion of the previous restrictive condition, could not exist; and hence it follows that the above set also could not exist.

Finally, a property that could not be instantiated in more than one object is not a universal. The very basis of admitting a universal, viz., the notion of belonging to the same class, is impossible in such a case. For example, *diktva* or spaceness is not a universal, because space is one and infinite, and hence the property spaceness is instantiated only in one object. Spaceness, however, is a 'simple property' (*akhaṇḍopādhi*) and like a universal is held to a real entity not ontologically distinct from its locus, viz., space.

By implication a property which could be instantiated in no objects at all is also not a universal; and precisely for the same reason as above, viz., that the notion of belonging to the same class is impossible in such a case. For example, general terms such as 'rabbit's horn', 'son of a barren mother', 'turtle's hair', etc., do not represent universals. Udayana devoted considerable attention to the analysis of such 'non-referring expressions' and at the risk of a slight digression we may briefly state the gist of it. We may begin with an

examination of statements like 'the rabbit's horn does not exist'; in nine out of ten cases the subject term of a sentence denotes an object. But to hold that the subject term of our sentence denotes an object is clearly unsatisfactory, because the very meaning of the sentence is that there is no such object as a rabbit's horn. Again let us consider the statement 'the rabbit's horn is not sharp'. It may seem that the statement is true; since the rabbit's horn does not exist, it is false to say that it is sharp and hence the statement that it is not sharp ought to be true. But Udayana points out that both the statements 'the rabbit's horn is sharp' and 'the rabbit's horn is not sharp' are false and proper analysis will show that there is nothing paradoxical about it. The statement 'the rabbit's horn is sharp' is much more complex than it may apparently seem and ought to be analysed as follows: 'the rabbit exists, the horn exists, the horn is sharp and the rabbit possesses the horn'. Now it is clear that the statement is false, because one of the conjuncts, viz., that 'the rabbit possesses the horn' is false. For the same reason the statement 'the rabbit's horn is not sharp' is also false. Similarly, the statement 'the rabbit's horn does not exist' should be analysed as 'no rabbit has a horn' in which case the apparent difficulty of not finding any denotation for the subject term is removed.³¹

It should be noted that this analysis of 'non-denoting expressions' is remarkably similar to that of Russell.³² Russell also held that both the statements 'the present king of France is bald' and 'the present king of France is not-bald' are false and gave a similar analysis of these two statements. Russell rejected³³ Frege's view that definite descriptions always have denotation on the ground that this creates problems for expressions like 'the present king of France' where the denotation appears to be absent. Nyāya, likewise, would not subscribe to the position that all definite descriptions are denoting expressions. In the Nyāya terminology a definite description like 'the son of Yajñadatta' stands for a 'complex predicate' (*sakhandopādhi*). The expression of a complex predicate is a denoting expression when every component of it is the name of a real entity. Thus in our example 'the son of Yajñadatta' is a denoting expression, because every component, viz., 'son', 'Yajñadatta' and the relation 'of', is the name of a real entity. But 'the rabbit's horn' is not a denoting expression, because one of the components, viz., possession of horn by rabbit, is not the name of a real entity.

We may now bring together the results we have so far obtained. There are first of all terms like man, cow, etc., corresponding to which there are universals which are ontologically real entities distinct from individual

objects. Secondly, there are terms like spaceness, etc., corresponding to which there are no universals, but are called 'simple properties' which are also ontologically real and distinct from their loci. Thirdly, there are terms like 'black cow', 'white man', etc., which represent complex properties and do not stand for any new, additional universals over and above those represented by their simple components. The peculiarity of the Nyāya view is that both indefinite descriptions like 'a Brahmin from Kashi' and definite descriptions like 'the son of Yajñadatta' are thrown into the class of complex properties. Fourthly, there are terms like 'rabbit's horn', 'son of a barren mother', etc., which, unlike those listed above, are 'non-denoting expressions'. Finally, there are terms like 'the universal of all universals', 'the universal whose member is inseparable inherence', etc., which could not represent any universals because of the special difficulties involved.³⁴

To conclude: We have seen that the Nyāya and Vaiśeṣika believed that universals are real entities ontologically distinct from particulars and inseparably inherent in them. The distinctive feature of the theory is that universals are held to be simple as well as sensible. Another distinctive feature is an elaborate study of various restrictive conditions that prevent the admission of universals answering to every common name. Our discussion shows that though one may not necessarily agree with either the main tenet of the theory or specific conclusions drawn on particular points, as a theory it is worked out extremely well to minute detail requiring subtle philosophical analysis. For all these reasons the Nyāya-Vaiśeṣika theory should be regarded as an interesting counterpart of the theories of universals in Western philosophy.

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NOTES

¹ See (20), pp. 51 – 2. The number in parentheses refers to the number of the entry in the bibliography. Though the theory of universals presented in the paper was developed by the Vaiśeṣika as much as by the Nyāya school, we have avoided writing down the word Vaiśeṣika every time a reference to the Nyāya view has been made.

² See (20), p. 59.

³ See (8), section on *samavāya*.

⁴ We have used the word connotation for the want of anything better. It should here be understood to mean 'the mode under which an entity becomes presented through

the word' and is comparable to Frege's *Sinn*. For Frege's view, see 'On Sense and Nominatum' reprinted in (2).

⁵ The first two arguments have been concisely stated by Śrīdhara as follows: ". . . the nature of each object being different from others, how could there be knowledge of a common form in them (without the universal), and how could they be designated by the same word? (Without the universal) the relation of a word with the unlimited individual objects of a class could not be established." See (17), p. 32.

⁶ See (15), pp. 80 ff.

⁷ See (15), pp. 458 ff.

⁸ See (12), p. 94.

⁹ The classification is also often said to be twofold, viz., (a) the universal of largest extension and (b) universals with an extension smaller than that of another universal. Raghunātha of Navya-Nyāya, however, held that there is no universal of the largest extension like *sattā* or 'existence' in which every universal is included. See (20), pp. 59–60.

¹⁰ Radhakrishnan writes: "The universals on this view, answer to the separate, supra-sensual arch-typal forms. . . . Praśastapada's view is akin to Plato's realism, according to which sensible things are what they are by participation in the universal forms of Ideas which are eternal and self-subsistent." See (10), vol. 2, pp. 211–2. Our remarks show that such assimilation of the Nyāya view to Plato's view is a mistake.

¹¹ See (12), P. 100.

¹² See (20), p. 52. A definition must be non-circular and free from the defects of being too wide, too narrow and impossible. (Impossibility here means not applying to any definiendum at all.) A definition must also be 'simple' and avoid superfluous qualification.

¹³ See (1), chap. IX.

¹⁴ See (13), chap. on Pramāṇapārāyaṇa.

¹⁵ "Mere similarity is not enough as held by Sāṃkhya, because individuals of different kinds are also known to be similar. . . ." See (7), p. 204.

¹⁶ See (20), p. 27.

¹⁷ See (3), vol. VI, p. 215.

¹⁸ See (17), p. 755. For a discussion of this and other Buddhist objections also see (15), chap. IX.

¹⁹ See (16), p. 94.

²⁰ On this point the Buddhist view is comparable to Spinoza's view that all determination is negation. For a fuller account of the Buddhist view see (14), Introduction.

²¹ See (4), p. 278.

²² See (18), p. 669.

²³ See (17), p. 754.

²⁴ For the necessary references in this paragraph see (11), chap. XI.

²⁵ See (5), p. 73.

²⁶ For this and following restrictive conditions see (4), pp. 73–7. This particular restrictive condition and the next restrictive condition were, however, rejected by Raghunātha see (20), p. 56.

²⁷ Udayana's date is held to be 10th or 11th century A.D. The author is not aware of any earlier logician who could be claimed to have formulated the extensionality thesis. For Udayana's date see (10), vol. 2, pp. 152–3.

²⁸ See (9), p. 88.

²⁹ See (6), p. 170.

³⁰ The distinction between an infinite regress that is vicious and an infinite regress that is not vicious is a very important logico-mathematical discovery and the author proposes to unravel the full significance of this distinction in a future paper.

³¹ See (5), pp. 133–40.

³² See Russell's 'On Denoting' reprinted in (2), pp. 108, 112.

³³ See (2), p. 107.

³⁴ A very significant development that took place in post-Udayana Nyāya philosophy (usually known as Navyanyāya) was the generalisation of the concept of *upādhi* already introduced by Udayana. Navyanyāya logicians used the term *upādhi* to mean any class of objects, irrespective of the number of objects in the class, irrespective of whether objects in the class shared a simple, common property, irrespective of whether the relation between the objects and the class was 'inseparable'. Everything that exists came to be regarded as an *upādhi* in this generalised sense. It appears that the Navyanyāya concept of *upādhi* was a close approximation to the modern concept of a set. A full discussion of the Navyanyāya theory of *upādhi* is, however, beyond the scope of this paper and has to be left to be the subject-matter of a series of papers in future.

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