

The Nyāya-Vaiśeṣika Theory of Variegated Colour (*Citrarūpa*): Some Vexed Problems

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I

According to the Nyāya-Vaiśeṣika school, there are seven types of entities that words can stand for: (i) substance (*dravya*), (ii) quality (*guṇa*), (iii) movement (*karma*), (iv) universal (*sāmānya*), (v) particularity (*viśeṣa*), (vi) inherence (*samavāya*) and (vii) negation (*abhāva*). Substances are of nine types – (i) earth (*pṛthivi*), (ii) water (*jala*), (iii) fire (*tejas*), (iv) air (*vāyu*), (v) ether (*ākāśa*), (vi) time (*kāla*), (vii) space (*dik*), (viii) soul (*ātman*) and (ix) mind (*manas*). Among these nine types of substances, each of the first four may again be of two types, viz. eternal (*nitya*) and non-eternal (*anitya*). The other five types of substances are eternal. A substance is said to be eternal if it is partless (*niravayava*), and this is possible if it has either (i) the smallest possible magnitude (*aṇuparimāṇa*) or (ii) the highest possible magnitude (*paramamahatparimāṇa*). Substances that have the smallest possible magnitude are said to be ‘atomic’ (*paramāṇu*); while substances that have the highest possible magnitude are said to be ‘all-pervasive’ (*vibhu*), i.e. they are substances that are in contact with every substance that has a limited magnitude (*sarvamūrtasamyogi*). Substances that have components (*sāvayava*) are formed through conjunction (*saṃyoga*) of smaller and homogenous substances. Thus, two earth atoms in conjunction produce an earth dyad (*dvaṇuka*), three earth dyads that are in conjunction form an earth-triad (*tryaṇuka* or *trasareṇu*), and so on. The eternal substances are imperceptible (*atīndriya*). Non-eternal substances can be perceived by external sense-organs if they have manifest colour (*udbhūtarūpa*) and ‘gross’ magnitude (*mahatparimāṇa*).¹ Composite substances from triads onwards can have perceptible magnitude, and they can have manifest colour if the atoms arrived at through a continuous division of them possess non-manifest colour (*anudbhūtarūpa*). Among the atomic substances, the earth-atoms, water-atoms and fire-atoms possess non-manifest colour, while air-atoms are devoid

of colour (*nīrūpa*). Thus, only non-eternal earth, water and fire may be perceived.² The colour of water is non-luminous white (*abhāsvara-śukla-rūpa*), the colour of fire is luminous white (*bhāsvara-śukla-rūpa*), while earth may have many different colours, viz. white (*śukla*), blue/black (*nīla*), yellow (*pīta*), red (*rakta*), green (*harita*), tawny (*kapiśa*) and variegated (*citra*).³

II

If we carefully examine the list of colours that are said to be present in earth-substances, we may note some interesting problems. First, variegated colour (*citrarūpa*) is not treated here as a conglomeration or sum total or mixture of different colours – it is admitted as a distinct type of colour (*svatantrarūpa*). Second, variegated colour differs from the other colours in an important respect. If we divide a gross red substance, then we will get components that are also red in colour, and these components can also be continuously divided till we reach the atoms, and even then, all these atoms will have red colour, even though such red colour is non-manifest. The same things holds, *mutatis mutandis*, in the case of substances that are either white or blue or yellow or green or tawny in colour. But this is not true of substances having variegated colour. A substance having variegated colour is said to be produced by components that have non-variegated colour (*citretararūpa*). This is somewhat surprising, because according to the Nyāya-Vaiśeṣika school, a cloth made from white threads is also white in colour – it cannot be red or yellow or green. But if among the threads used for weaving a cloth, some are white, some are blue and some are red, then the cloth so produced will be neither white, nor blue, nor red – it will have a totally different and yet single colour, which is said to be the 'variegated colour'.

The admission of variegated colour poses some other problems as well. First, it is admitted by all that we cannot make a red cloth out of white threads. Why is this the case? Is it because the colours white and red are opposed to each other? If so, then why are they said to be opposed to each other? Is it because they are different? If so, then how can substances having non-variegated colours produce a substance having variegated colour? Second, can we, by an analogical argument, admit also variegated smell (*citragandha*), variegated taste (*citrarasa*) and variegated touch (*citrasparśa*) as distinct qualities? Among the three substances that are said to possess colour, each among earth, water and fire has its distinctive touch. Earth and water also possess taste. The taste of water is said to be sweet, while earth

may have six different tastes like sweet (*madhura*), pungent (*kaṭu*), astringent (*kaṣāya*), sour (*amla*), saline (*lavaṇa*) and bitter (*tikta*).⁴ Earth alone can have smell, and this smell can, again, be of two types – fragrant (*surabhi*) and non-fragrant (*asurabhi*). Now if we use some cotton threads and some silken threads for weaving a cloth, then what sort of touch would characterize the resultant cloth? Would its touch be like the touch of the cotton threads, or would it be like the touch of the silken threads? If none of these alternatives is admitted, then would the resultant cloth have a variegated touch? Similarly, what would be the smell of the liquid that may be obtained by mixing perfume with ammonia? What, again, would be the taste of the liquid that may be obtained by mixing together sugar-cane juice, lemon juice, salt and pepper? Should we admit in these cases the production of variegated smell and variegated taste respectively? As a matter of fact, the orthodox adherents of the Nyāya-Vaiśeṣika school deny even the very possibility of variegated touch, variegated smell and variegated taste. Why then do they admit variegated colour? Are double standards at work here?

The situation becomes “curiouser and curiouser” when we find the later Naiyāyikas differing sharply while answering this uncomfortable question. A stalwart like Raghunātha Śiromaṇi has maintained that there is actually no distinct colour which is described by the term *citrarūpa* (or its Sanskrit synonyms like *śabalarūpa*, *karvurarūpa*, *mecakarūpa* or *kalmāsarūpa*). When one says that a certain substance has variegated colour, all that one actually means is that the substance concerned has different colours in its different constituent parts – that the substance does not have a single colour in the first place.⁵ Others, like Rāmabhadra Sārvabhauma, have maintained that variegated colour cannot be denied at any cost; if the admission of such colour compels us to admit variegated smell, taste and touch, then so be it.⁶ The orthodox followers of the Nyāya-Vaiśeṣika school would obviously try to retain variegated colour, and reject variegated smell, taste and touch. The question that may be asked is – which one of these doctrines is acceptable?

In order to answer this question, one has to bear in mind the positions adopted by the Nyāya-Vaiśeṣika school while answering the following questions:

- (i) What is the ontological status of a composite substance?
- (ii) What is the general rule regarding the production of a quality in a composite substance?
- (iii) Are there any exceptions to this general rule?
- (iv) What is the manner in which we perceive the colour of a

substance?

(v) Can the same substance be characterized by different colours? If not, why not?

(vi) What is the manner in which we perceive the colour of a substance produced by components that have different colours?

(vii) What are the linguistic features of the expressions that we use while describing the visual perception of such a composite substance?

The present paper will state and evaluate the answers to these questions as given by the Naiyāyikas and Vaiśeṣikas. In the sequel, we have tried to point out some basic (and apparently independent) assumptions underlying Nyāya-Vaiśeṣika metaphysics and epistemology that are of some relevance here, providing thereby a case-study in favour of the Wittgensteinian dictum that metaphysical beliefs come in clusters.

III

We now proceed to list some of the basic doctrines of Nyāya-Vaiśeṣika metaphysics and epistemology that are invoked in the dispute concerning the status of variegated colour. Some of them have been mentioned earlier, and their repetition may kindly be excused. These doctrines are as follows:

(D 1). Among the nine kinds of substances admitted in the Nyāya-Vaiśeṣika system, only composite earth-substance, composite fire substance and composite water-substance are perceptible.⁷

(D 2). These three kinds of substances are perceptible since they have both manifest colour (*udbhūtarūpa*) and 'gross' magnitude (*mahatparimāṇa*).⁸

[In the absence of *either* of these two characteristics, a substance becomes imperceptible. Thus, a triad formed by air-atoms has 'gross' magnitude; but since it lacks manifest colour, it is imperceptible.⁹ An earth atom is imperceptible since it has *none* of these two characteristics. It is not possible for us to cite the example of a composite substance that lacks 'gross' magnitude, and is yet characterised by manifest colour, because manifest colour can be present only in substances from triads onwards, and all such substances have 'gross' magnitude.¹⁰ One may reasonably ask here – why should we treat the possession of 'gross' magnitude as one of the conditions that must be satisfied by a substance if it is to be perceptible? What is the harm if it is simply said that a perceptible substance must have manifest colour? In answer, the adherents of the Nyāya-Vaiśeṣika school would say that all perceptible substances have, as a matter of fact, 'gross' magnitude and manifest colour; and there is also no clinching argument

(*vinigamanā*) in favour of accepting manifest colour as the sole condition that determines the perceptibility of a substance. Accordingly, it is maintained that a perceptible substance must have both 'gross' magnitude and manifest colour].

(D 3). The composite substances (i.e. substances that have parts) are effects, and they are also positive. All positive entities that are also effects, are produced by three kinds of causes – (i) the 'inherent' cause (*samavāyikāraṇa*), (ii) the 'non-inherent' cause (*asamavāyikāraṇa*), and (iii) the 'efficient' cause (*nimittakāraṇa*).¹¹ Since all perceptible substances are composite entities, they, too, must be produced by these three types of causes.

[Effects that are negative entities are produced by 'efficient' causes alone.]

(D 4). An entity X is said to be the 'inherent' cause of an effect Y, if Y, as soon as it is produced, inheres in X – i.e. if the relation known as inherence (*samavāya*) obtains between X and Y.¹² According to the Nyāya-Vaiśeṣika school, only a substance can be the inherent cause of some effect.

[A cloth that is woven out of some threads inheres in those threads as soon as it is produced, and those threads are also the causes of this particular piece of cloth. Thus, the constituent threads of a cloth are the 'inherent' causes of that cloth].

(D 5). Inherence (*samavāya*) is an occurrence-exacting (*vṛttiniyā-maka*) relation that obtains between a pair of totally distinct entities that are also 'inseparable' (*ayutasiddha*), and among whom one is located in the other.¹³ Such pairs of entities can be of five types, which are as follows:

(i) A composite substance (*avayavi*) and the parts (*avayava-s*) out of which it is made [e.g. a cloth and the threads from which it is made]. In this case, the composite substance is located in its constituent parts.

(ii) A substance (*dravya*) and its qualities (*guṇa*) [e.g. a cloth and its colour]. In this case, the qualities are located in the substance to which they belong.

(iii) A substance (*dravya*) and the movement (*karma*) that is located in that substance [e.g. a moving ball and its motion].

(iv) A universal (*jāti/sāmānya*) and the individual (*vyakti*) that instantiates it, i.e. the particular instance in which the universal is located [e.g. a pot and the potness that characterises it].

(v) An eternal substance (*nityadravya*) and the 'particularity' (*viśeṣa*) located in that eternal substance.

[An eternal substance can be differentiated from other similar and dissimilar eternal substances by virtue of its 'particularity'].

(D 6). If X and Y are two entities such that X is located in Y through some relation, then X and Y can never be identical.¹⁴

(D 7). Let the entity A be the cause of the entity B. Now, the entity C will be regarded as the 'non-inherent' cause (*asamavāyikāraṇa*) of B if it is the case that (i) C is the cause of B; and (ii) at the same time, *either* there is also an entity D in which both A and C inhere, *or* there is an entity E in which both B and C inhere.¹⁵

[The etymological meaning of 'non-inherent' cause is a cause which is different from the inherent cause. This meaning has not been adopted here, as this is also true of the 'efficient' cause. The pot, which is an effect, does not inhere in the potter who is a cause of the pot. However, the potter is not regarded not as the non-inherent cause of the pot, but as the 'efficient' cause of the pot. The notion of 'non-inherent' cause is a complex one, and without going into details that might make this discussion unduly lengthy, we shall explain the notion of 'non-inherent' cause with the help of two stock examples. The 'inherent' cause of a cloth are the threads out of which the cloth is made. The non-inherent causes of the cloth are the conjunctions that obtains between the threads when the cloth is being woven. Conjunction (*saṃyoga*) between two such threads is a quality (*guṇa*) of those two threads, and accordingly, it inheres in both those threads; and the cloth, too, inheres in these threads. The said conjunctions are also to be treated as invariable antecedents of the cloth, because unless the threads are in conjunction, the cloth cannot be produced. Accordingly, the conjunctions between the threads are regarded as the causes of the cloth. Hence, the definition of 'non-inherent' cause applies to the conjunctions between the threads. Here, the non-inherent cause of an effect co-exists with the effect in the same locus through the relation known as 'inherence'.¹⁶ Again, the colours of those threads are regarded here as the 'non-inherent' causes of the colour of the cloth. The colour of the cloth is also an effect, and the cloth is here the 'inherent' cause of that colour. The colour of a thread is also an effect, and here, the thread is its 'inherent' cause. Now, both the colour of the thread and the cloth inhere in the same entity, viz. the thread. We have also to admit that the colour of the thread is a cause of the colour of the cloth. A cloth cannot be white unless its constituent threads are also white.¹⁷ Hence, the definition of 'non-inherent' cause applies here to the colour of the thread. Here the non-inherent cause of an effect co-exists with the (inherent) cause of that effect in the same locus through the relation known as inherence. It may be noted here that only quality (*guṇa*) or movement (*karma*) can be the non-inherent cause of an effect.]

(D 7). If P is the cause of Q, and if at the same time, P cannot be regarded as the 'inherent' cause or 'non-inherent' cause of Q, then P is the 'efficient' cause of Q.

[The weaver is the cause of the cloth woven by him, and he cannot be regarded as the 'inherent' cause of the 'non-inherent' cause of that piece of cloth. Hence, he is the 'efficient' cause of that cloth].

(D 8). Substances, with the exception of all-pervading substances (*vibhudravya*) and composite substances that are not components of some other composite substances (*antyāvayavi*), are capable of producing other substances; and qualities, with the exception of qualities like *paratva* (the property of being far/the property of being earlier than something), *aparatva* (the property of being near/the property of being later than something) etc., are capable of producing qualities.¹⁸

(D 9). The colours of the component part determine the colour of the composite substance produced by these parts.¹⁹

(D 10). The six types of colour (viz. white, blue, yellow, red, green and tawny) are 'opposed' to each other. This 'opposition' may be shown in various ways. First, no substance can be white and blue at the same time, i.e. they cannot co-exist in the same thing at the same time.²⁰ Second, if the threads of a cloth are white, then the cloth produced by these threads cannot be blue in colour, i.e. a colour belonging to one of these types cannot produce another colour belonging to a different type. It would be more appropriate to say that the presence of a particular colour C_1 belonging to a particular type in a component part 'obstructs' [i.e. acts as an 'impediment' (*pratibandhaka*) to] the production of another colour C_2 that belongs to a different type in the composite substance that is to be produced by the said component part. The colour is thus 'impeded' or 'obstructed' (*pratibadhya*) in respect of C_1 , and this sort of opposition is technically known as *pratibadhya-pratibandhaka-bhāva*.

(D 11). Any colour whatsoever is 'completely occurrent' or 'pervasively occurrent' (*vyāpyavṛtti*) in the substance in which it inheres.²¹ An entity X is said to be 'completely occurrent' in another entity Y if it is the case that there can be no absence of X in Y so long as X is present in Y. At first sight, it may seem that all properties will satisfy this condition. But the matter is not so simple, because there can also be properties that do not satisfy this condition. Such a property is said to be 'incompletely occurrent' (*avyāpyavṛtti*). If P is such a property, then P and the absence of P may be simultaneously present in a locus Q, although P and the absence of P cannot be located in the selfsame portion of Q.

Universals are good examples of 'completely occurrent' properties. It can never be the case that pothood (*ghatava*) and absence of pothood (*ghatatvābhāva*) are simultaneously present in the same entity. The stock example of 'incompletely occurrent' properties is the quality known as contact or conjunction (*saṃyoga*) that can obtain between two separable (*yutasiddha*) substances. Suppose, a monkey is sitting on a tree. Here, there is a conjunction of the monkey in the tree in respect of one of its branches. But there is also the absence of this same conjunction in that tree in respect of its trunk or root. This is supported by uncontradicted experiences like "there is contact of monkey in the tree as delimited by the branch, but there is no contact of monkey in the tree delimited by the roots" (*vrkṣaḥ śākhāvacchedena kapisaṃyogī, na mūlāvacchedena*).

(D 12). A colour cannot be a repeatable entity. Thus, the same colour cannot be present in more than one substance. All the blades of grass in the yonder field are green, but they are not characterised by the *same* green colour-individual. Each of these blades has a separate green colour-individual inhering in it. These green colours are, however, similar; and all of them are characterised by greenness, which is a universal. That these blades of grass do not have an identical colour-individual (*rūpavyakti*) inhering in them can be established through some simple and straightforward arguments. The blades of grass are effects, since they are composite substances; and since they are effects, the colour-individual inhering in them are also effects, and the inherent cause of each of these particular green colour-individual is that blade of grass in which the particular green colour-individual inheres. Different causes produce different effects, and the blades of grass are certainly different from one another. Consequently, the green colour-individuals inhering in them must also be different from one another.

(D 13). An effect can never be identical with any one of its causes or with the sumtotal of its causes. This claim of the Nyāya-Vaiśeṣika school is based on some of their doctrines about the nature of effect. According to the adherents of this school, before the production of an effect, the effect is non-existent. This non-existence is known as prior non-existence (*prāgabhāva*). Thus, before a particular pot is produced by the potter, there is the prior non-existence of this pot, and the pot is said to be the counter-positive of this prior non-existence.²² A prior non-existence can never co-exist in the same place along with its counter-positive. Since the prior non-existence of an effect is invariably present before the production of that effect, it has to be admitted as a cause of that effect; and it must also be

admitted that this prior non-existence combines (and thus co-exists) with all the other causes for producing this effect. If it is now claimed that the effect is identical with any one of its causes, then it will lead to the absurd situation where an entity can co-exist with its prior non-existence. Hence, no effect can be identical with any one of its causes.

(D 14). Among the five external sense-organs, the visual and tactual sense-organs are capable of grasping the perceptible substances, the movements and some of the common qualities [e.g. contact (*saṃyoga*), number (*saṅkhyā*), size (*parimāṇa*) etc.] inherent in these substances, as well as the universals inherent in these three types of entities. The gustatory, auditory and olfactory sense-organs can grasp respectively the three specific qualities taste (*rasa*), sound (*śabda*) and smell (*gandha*). Each of these three sense-organs can also grasp the universals inherent in the specific quality apprehended by it.

This doctrine is of vital importance to the adherents of the Nyāya-Vaiśeṣika school, because it helps them in maintaining the robust realism advocated by them. The Nyāya-Vaiśeṣika school believes in the existence of extra-mental (or external) objects (*bāhyaviśaya*); and they also admit the objective existence of universals, which, in their opinion, are eternal and immutable. From what has been stated about D 14, it can be easily seen that according to the adherents of Nyāya-Vaiśeṣika school, many of the external objects (including universals) can be known through veridical perception, and the reality of objects that are known through such veridical perceptions is beyond the ken of doubt.

For the adherents of the Nyāya-Vaiśeṣika school, perception reveals to us stable objects that are genuinely related through relations like conjunction (*saṃyoga*), inherence (*samavāya*) etc., and they can be adequately grasped by our thoughts, concepts and language. Much of this world-view will be adversely affected if it can be shown that there are no substances. Under such an assumption, the Nyāya-Vaiśeṣika view that external objects like chairs, tables etc. are known through perception will become untenable. This, in its turn, will have devastating consequences. One may try to maintain that such external objects are known indirectly, but this position will fall an easy prey to the onslaughts of subjective idealism. Moreover, the Nyāya-Vaiśeṣika school maintains that the perceptible qualities [with the exception of sound (*śabda*)] and the perceptible motions are perceived through the sense-object relation that is known as *saṃyukta-samavāya*. This is an indirect relation. The sense-organ cannot have any direct access to the qualities and movements perceived by us. The external sense-organs, with the exception of the auditory sense-organ are conjoined

(*saṃyukta*) with some perceptible substance, while the perceptible qualities (with the exception of sound) and movements are inherent (*samaveta*) in those substances. Thus, the sense-organs are related to these perceptible qualities and movements *via* the substances in which the latter inhere; and once the notion of substance is undermined, the indirect relation supposed to obtain between the sense-organs on one hand and these perceptible qualities and movements will also disappear.²³ As a consequence, the Nyāya-Vaiśeṣika claim that such entities are perceptible will also become untenable. If we proceed a little more along this route, then we will easily see how there will be no scope for any of the other sense-object relations admitted by the Nyāya-Vaiśeṣika school. Again, where would the qualities and movements inhere if there are no substances? In the absence of substances, qualities and movements, where could the universals be instantiated? Again, in the absence of eternal substances, where would the particularities be located? In short, there will be a total collapse of the categorial scheme admitted in the Nyāya-Vaiśeṣika school. The graveness of this consequence can easily be understood.

The Buddhists (especially the followers of the school founded by Dignāga and Dharmakīrti) were formidable adversaries of the Nyāya-Vaiśeṣika school. The phenomenalistic, nominalistic and reductionist outlook of these Buddhists could not in any way be compatible with the doctrines of the Nyāya-Vaiśeṣika school. The Buddhists were quick to note that the Nyāya-Vaiśeṣika views would become extremely vulnerable if the notion of substance can be rejected. Accordingly, the Nyāya-Vaiśeṣika doctrine of substance became the prime target of attack from the Buddhist camp, and a series of objections were raised against the notion of substance. Some of these objections sought to establish that there is no necessity of postulating substances as the loci of qualities, movements, universals and particularities; because entities like qualities are immobile, and only mobile entities like water are in need of a locus or receptacle (*ādhāra*).²⁴ Another strategy was to show that the so-called substance is nothing over and above its supposed properties, and this was sought to be proved by undermining the distinction between locus (*ādhāra*) and locatee (*ādheya*) – a distinction which is of vital importance to the Nyāya-Vaiśeṣika school, and which is clearly presupposed in the categorial framework proposed by its adherents. Yet another objection aims to show that there is no need for postulating substances as 'inherent' causes, since the very notion of inherence is logically untenable.²⁵

Finally, the Buddhists have raised a series of objections against the possibility of composite substances or 'wholes' that are supposed to

reside in their respective parts. According to the Nyāya-Vaiśeṣika school, each composite substance is a single entity that inheres in each of its component parts. The Buddhists have launched a two-pronged attack on this doctrine. The first part of their argument consists in showing that no proper account of the *manner* in which the whole inheres in its parts can be given. Does the entire composite substance inhere in each of its components, or is it the case that only a part of the composite substance inheres in each of its component parts? There is no third alternative, and at the same time, none of the alternatives given here can be accepted. The first alternative cannot be accepted, because if the so-called composite substance in its entirety inheres in a single component, then the composite substance would be exhausted in that component, and the other components would become redundant. Under the second alternative, the composite substance would require further parts for inhering in its hitherto recognised parts, and this will clearly lead to an infinite regress. Thus there is no way of giving any satisfactory explanation of the manner in which a so-called composite substance can inhere or reside in its supposed parts.²⁶

The next target of the Buddhists' attack is the alleged unity or singleness of the so-called 'whole' or composite substance. The Buddhists try to show that the 'composite substance' is characterized by contradictory features. They also point out that contradictory features like horseness and cowness cannot simultaneously belong to the same object. Hence, the so-called composite substance, being the locus of contradictory features at the same time, cannot be a single entity – it is only a conglomeration of atoms.

When we look at a tree, we can see only the portion that is in front of us – we cannot see the rest of it. Thus, the tree is seen and not seen at the same time. Again, when a person covers his face with a veil, his body is covered and uncovered at the same time. When the branch of a tree wags in air, the roots and trunk of that tree remain stationary. Thus, the tree is moving and not moving at the same time. When we look at a white cloth woven along with red borders, we find red colour in its borders and absence of red colour in the rest of it. Thus, this cloth is red and not red at the same time. When a monkey sits on the branch of a tree, the tree has conjunction or contact with the monkey only in one of its portions – in the rest of the tree, there is no conjunction with the monkey. Thus, the tree is both in conjunction with the monkey as well as not in conjunction with the monkey at the same time. From these cases, we get five pairs of contradictory features that are being simultaneously ascribed to things that are

admitted by the Nyāya-Vaiśeṣika school as examples of composite substances. From these examples cited by the Buddhists, we have five pairs of opposed features, and they are as follows :

- (i) being perceived and being not perceived (*grahaṇa-agrahaṇa*),
- (ii) Being covered and being uncovered (*āṅṛtatva-anāṅṛtatva*),
- (iii) Movement and absence of movement (*kampa-akampa*),
- (iv) red and not red (*raktatva-araktatva*),
- (v) conjunction with a certain thing and the absence of that conjunction (*saṃyukta-asam̐yukta*).

These are the famous five pairs of opposites, the ascriptions of which have been discussed by Udayana in his *Ātmatattvaviveka* as grounds shown by the Buddhists for rejecting the unity of a composite substance. We have already noted that according to the Nyāya-Vaiśeṣika school,²⁷ the composite substance is a single entity that simultaneously inheres in many parts, and once we deny the unity or oneness of the composite substance, we will also be compelled to admit that the so-called composite substance is only a sumtotal or conglomeration of its components. This will also be true of its components, and in this way, we will be compelled to admit that entities like chairs, tables etc, are only conglomerations of atoms that are in close contiguity. This will also be the same thesis that is maintained by the Sautrāntika and Vaibhāṣika Buddhists, and we will be compelled to take the first step towards the rejection of Nyāya-Vaiśeṣika version of direct realism.

It may be noted here that the list of five pairs of opposite features provided by the Buddhists is not exhaustive. The Buddhists do not also claim that *all* these five pairs are simultaneously present in *every* composite substance admitted by the Nyāya-Vaiśeṣika school. These five pairs serve only as examples – one may point out similar pairs of opposed features in some other types of composite substances admitted by the Nyāya-Vaiśeṣika school. The point made by the Buddhists is that *some* such pair of opposed features can be ascribed to *every* composite substance admitted by the Nyāya-Vaiśeṣika school.

The adherents of the Nyāya-Vaiśeṣika school have tried to meet this challenge by turning the argument of the Buddhists on its head. They maintain that if two properties are *genuinely* opposed to each other, then they really cannot be ascribed to the same thing. Thus the fact that the pairs of properties mentioned above can be ascribed to composite substances merely proves that they are *not* pairs of properties that are genuinely opposed to each other – the opposition between the constituents in each of this pairs is only *apparent*.

Thus, the apparent contradiction in the first example cited by the

Buddhists can be resolved by claiming that while we see the tree, we do not see those portions of it that are not in front of us. Again, the apparent contradictions in the second, third and fifth examples can be resolved if it can be shown that in each of these cases, one of the constituents of the so-called pair of opposed features is a property which is not "completely occurrent" in its locus (i.e. such a property is *avyāpyavṛtti*, if we prefer to employ the terminology of the Nyāya-Vaiśeṣika school). An *avyāpyavṛtti* property and its absence may very well reside in the same locus – in fact, this is the very nature of an *avyāpyavṛtti* property. Had the case been otherwise, it would have been *vyāpyavṛtti*. Let us consider the fifth example given by the Buddhists. When a monkey sits on the branch of a tree, a quality known as the conjunction (*saṃyoga*) between the tree and the monkey is produced, and this quality resides in both the tree and the monkey. But we cannot say that this conjunction is present everywhere in the tree or everywhere in the monkey. As a matter of fact, this conjunction is not present in the roots or trunk of the tree; and it is not also present in the head or shoulders of the monkey. Thus, a particular conjunction and its absence may very well share the same locus, and this is feasible because conjunction (*saṃyoga*) is *avyāpyavṛtti*. We can thus say that no contradiction ensues when we simultaneously ascribe to the same tree the conjunction with the monkey and the absence of this conjunction. Consequently, the claim that the tree cannot be a single entity as it harbours a pair of contradictory properties is not tenable. Once the tree can be shown to be a single entity, it can be claimed that it is a *whole* that resides in its parts. In this way, the claim of the Nyāya-Vaiśeṣika school that the tree is a composite substance can be vindicated. Similar strategies can be adopted in the cases of the second and third pairs of opposites cited by the Buddhists. But the problem posed by the fourth pair of opposites cited by the Buddhists cannot be resolved in this manner, because according to the Nyāya-Vaiśeṣika school, colour is a *vyāpyavṛtti* property, i.e. it belongs to its locus in its entirety. Hence, they cannot solve this problem by claiming that the red colour and its absence can be simultaneously present in the same locus. It is here that the doctrine of variegated colour comes in handy for the adherents of the Nyāya-Vaiśeṣika school. Once it can be shown that (i) the so-called piece of white cloth with red borders does not have two mutually opposed colours in its different parts and (ii) that the cloth has a single colour, which is neither red, nor white, but 'variegated', the Buddhists' claim that mutually opposed colours can be ascribed to that piece of cloth would become untenable; and the subsequent

claim of the Buddhists that the so-called piece of cloth is not a single unified entity but a collection of many discrete entities would also become infructuous. It now remains for us to state how the adherents of the Nyāya-Vaiśeṣika school tried to show that 'variegated' colour is a distinct colour that can be produced by several 'non-variegated' colours that are different from one another. Thereafter, we will give a short account of the disagreement among the later Naiyāyikas regarding the status of such variegated colour, which may then enable us to take stock of the entire debate.

IV

In Indian philosophical tradition, the usual procedure for initiating a debate is to state a sentence in which the precise issue under discussion is stated in the form "Is X a case of Y or not?" Such sentences are known as *vipratipattivākya*-s. It is often possible to present the same controversy in different manners, and in such cases, the participants may choose from among a number of alternative *vipratipattivākya*-s. Such alternative *vipratipattivākya*-s shed a lot of light on the different facets of the same problem, and are thus extremely helpful for the participants and observers in a philosophical controversy. Following this standard procedure, we now proceed to state the different *vipratipattivākya*-s regarding 'variegated' colour. In this connection, it is necessary to recall the fact that the Nyāya-Vaiśeṣika school admits six types of 'non-variegated' colours, viz, white (*śukla*), blue/black (*nīla*), yellow (*pīta*), red (*rakta*), green (*harita*), and tawny (*kapiśa*). We usually find four *vipratipattivākya*-s regarding 'variegated' colour, and they are now stated as follows:

(i) Can there be any colour which is different from the six non-variegated colours like white, blue, red etc. (*rūpādikaṃ nīlādibhinnaṃ na vā*)?

(ii) Can the universal known as colourhood (*rūpatva*) inhere in something which is different from the six non-variegated colour (*rūpatvaṃ nīlādibhinnavṛtti na vā*)?

(iii) Can the blue colour, which is incapable of producing non-variegated colour like yellow, green etc., produce a colour which is not blue (*pītādyajanakanīlaṃ nīletararūpajanakaṃ na vā*)?

(iv) Can a substance, which inheres in various components possessing (non-variegated) colours blue and yellow, and which is itself devoid of (non-variegated) colours like red, green etc., become the locus of a colour that is different from blue and yellow (*raktādīśūnyaṃ nīlapītasamavetaṃ dravyaṃ nīlapītātiktarūpavanna vā*)?²⁸

Those who answer these questions in the positive are those who support the existence of variegated colour, while those who answer these questions in the negative are those who do not admit variegated colour.

When we ponder upon these four *vipratipattivākya*-s, it becomes amply clear that the first two of them relate to the very existence of a single and distinct colour that can be regarded as variegated, while the last two of them relate to the process through which a variegated colour could possibly come into existence. To be more precise, the third *vipratipattivākya* raises the question as to whether a non-variegated colour can be the 'non-inherent' cause of a variegated colour, and the fourth *vipratipattivākya* raises the question as to whether there can be any substance that can be the 'inherent' cause of a variegated colour. It may be recalled here that according to the adherents of the Nyāya-Vaiśeṣika school, all variegated colours are products of non-variegated colours; and being positive entities that are also effects, they must have some 'inherent' cause(s) and some 'non-inherent' cause(s).

The adherents of the Nyāya-Vaiśeṣika school have answered all these four questions in the affirmative, and in their opinion, the existence of 'variegated' colour is established by uncontradicted experience. Just as the existence of blue colour is established on the basis of experiences like 'this is a blue colour' or 'this is a piece of blue cloth', similarly, we have to admit 'variegated' colour on the verdict of experiences like 'this is a variegated colour' or 'this piece of cloth has a variegated colour'. These experiences are not erroneous, and the descriptions that are based on these experiences are also admissible in common usage. Hence, if we are to be faithful to our experience and common usage, then we have also to admit the existence of variegated colour.

The opponents of the Nyāya-Vaiśeṣikas school may now claim that what is described as variegated colour is actually a multiplicity of colours. A cloth that is woven from threads having different colours cannot have a single colour in it – there are different colours in different portions of the cloth. The world 'variegated' is only a convenient abbreviation that helps us in giving a brief and simple description of such a cloth. The real nature of the cloth is revealed in expressions like 'this cloth is multi-coloured (*bahuvārṇa*)'. Such a description is also permitted in common usage, and it does not presuppose the emergence of a new colour. Hence, we need not unnecessarily admit the existence of variegated colour, because such an admission goes against the rule of parsimony (*lāghavatarka*).

The adherents of the Nyāya-Vaiśeṣika school now try to show that a piece of cloth cannot actually be multi-coloured. Let us recall here D9, D10 and D11. Colour is always 'pervasively occurrent', i.e. if a certain colour C_1 is present in a certain substance S , then C_1 will be present all over that substance S – it cannot be the case that C_1 will be present in some portions of S , while some other colour C_2 will be present in some other portions of S . Hence, presence of many colours in a single substance cannot be admitted.²⁹

The adherents of the Nyāya-Vaiśeṣika school now point out that the so-called multiple colours cannot also be produced in a substance. For the sake of argument, let us assume that a piece of cloth has red, blue and yellow colours in it. This is supposed to come about through the following process – the piece of cloth is woven from some threads that are red, some threads that are blue and some threads that are yellow. These threads would be the 'inherent' cause of the cloth that is produced from them. The cloth thus produced would have to be the inherent cause of the red, blue and yellow colours that would inhere in different portions of that cloth, whereas the red, blue and yellow colours present in different threads would have to be the respective 'non-inherent' causes of the red colours, the blue colours, and the yellow colours that are present in the cloth. This, however, is not possible. We have already noted that if a certain colour C_1 is present in a component of a certain composite substance, then C_1 will prevent the production of a colour of a different type in that composite substance. Thus, the very presence of red colour in some of the constituent threads would prevent the production of non-red colours like blue and yellow in the cloth that inheres in those threads. The same is true of the blue and yellow colours that are present in the other constituent threads. If the presence of a certain entity A prevents the production of another entity B , then A cannot be considered by any stretch of imagination to be the cause of B . To put it in the terminology of the Nyāya-Vaiśeṣika school, if there is *pratibadhyā-pratibandhaka-bhāva* between A and B , then there can never be any *kārya-kāraṇa-bhāva* between A and B . Hence, the red colours present in some of the threads cannot be the non-inherent causes of the blue and yellow colour. Nor can the presence of blue and yellow colours in some other threads be the required 'non-inherent' causes, because their causal efficacy will be rendered ineffective by the preventive factors, viz. the presence of red colours in some of the constituent threads. In the absence of the required 'non-inherent' causes, blue and yellow colours cannot thus be produced in the cloth under consideration. Similar arguments can be

given for proving that no red colour can be produced in that cloth.³⁰

We have seen why no red, yellow or blue colour can be present in the cloth under consideration. But why should we admit the production of a novel colour that is called 'variegated' in that cloth? In answer to this question, the adherents of the Nyāya-Vaiśeṣika school point out that just as the cloth cannot have the non-variegated colours like red, blue and yellow, it cannot similarly have the three other non-variegated colours, viz. white, green and tawny. But there must be some colour in the cloth – otherwise it should be imperceptible (vide D2). Since this colour cannot be any one of the six colours mentioned above, it must be colour of a different kind, and this is the 'variegated' colour admitted by the Nyāya-Vaiśeṣika school. Like the white colour present in a white cloth, the 'variegated' colour that is present in a cloth is also *one (eka)* and 'pervasively occurrent' (*vyāpavṛtti*) [vide D11 and D12).

The opponents of the Nyāya-Vaiśeṣika school may now point out that the supporters of 'variegated' colour are violating the principles that they themselves have formulated. The 'variegated' colour that is supposed to be produced in the cloth under consideration is not red, blue or yellow. How can these three colours then be the 'non-inherent' causes of the 'variegated' colour? How is it that the alleged '*pratibadhya-pratibandhakabhāva*' between two colours belonging to different types become ineffective in this case?

The opponents of the Nyāya-Vaiśeṣika school do not also admit that the cloth under discussion is characterised by a single and 'pervasively occurrent' colour. It is an undeniable fact of experience that in the cloth under discussion, we can see red, blue and yellow colours, and none of them is present in the cloth in its entirety. Hence, we have to admit that in some cases, a substance can be characterised by many different and 'non-pervasively occurrent' colours. Moreover, the word *citra* may be taken to stand for multiplicity. In fact, Dharmakīrti, the famous Buddhist philosopher has passed a humorous remark against those who maintain that *citrarūpa* is *one*:

*citraṃ tadekam iti ced idaṃ citrataraṃ mahat.*³¹

["what is *citra* is being said to be one – this is even more *citra!*" (this witty remark plays upon the ambiguity of the word *citra*. It may mean 'variegated' or 'many', and it may also mean 'strange')].

The adherents of the Nyāya-Vaiśeṣika school are not impressed by these arguments. The *pratibadhya-pratibandhaka-bhāva* between colours of different types cannot be denied. In case it is denied, we

cannot rule out the possibility of a blue cloth being made out of white threads alone. The fact that no cloth can be red and blue all over proves that no two different colours can be present in the same substance. This fact also justifies the Nyāya-Vaiśeṣika view that every instance of colour is 'pervasively occurrent'. The claim that the word *citra* stands for multiplicity cannot also be entertained, because the expression "*paṭasya citraṃ rūpaṃ*" (the colour of the cloth is *citra*), when carefully analysed, suggests that the word *citra* does not stand for multiplicity. Both the words '*citra*' and '*rūpa*' employed in this expression are in singular number, which suggests that *citarūpa* is a single colour. It cannot also be suggested that many non-variegated colours, when found together, are collectively called '*citra*' or variegated. Had this been the case, a collection of non-white colours could have been indicated by the word 'white'. Under these circumstances, the only reasonable conclusion that can be drawn is that simple or primary colours are not the only colours; and that there are colours which may share some properties of other colours by virtue of its being a colour, though they may differ significantly from other colours. The admission of 'variegated' colour is also parsimonious, because according to this hypothesis, we have to admit the production of only one effect; whereas under the assumption favoured by the opponents, we have to admit the production of many effects. Thus, the admission of 'variegated' colour seems to be justified on many counts.³²

V

It is now time to take up another issue – why should we not admit that like 'variegated' colour, there can also be 'variegated' taste, 'variegated' smell and 'variegated' touch? Why should the arguments applicable to colour become inapplicable to taste, smell and touch?

In answer, the adherents of the Nyāya-Vaiśeṣika school point out that 'variegated' colour was admitted for explaining the fact that gross substances that are made from components having different colours are perceptible. It has already been pointed out that substances devoid of colour are imperceptible. But presence of taste, smell or touch in a substance does not determine its perceptibility. Hence, when a substance is produced from components that have different tastes, the resultant substance does not have any taste of its own – the gustatory sense-organ merely grasps the different tastes of the components. This is also true in the case of smell and touch. Accordingly, we need not admit the existence of 'variegated' taste,

smell and touch.

The opponents may ask here – why should we not in like manner say that when we see a substance made from components having different colours, the colours that are seen by us actually belong to the components? If we agree to accept such a solution, then we need not admit the existence of variegated colour.

The answer to this question is that unless some colour is present in a substance, it cannot be perceived by us. If the opponents do not want to admit variegated colour, then they have to admit that since the colours inhering in the component parts are also present in the resultant substance through an indirect relation known as *sva-samavāyi-samavāya*, the resultant substance can be perceived. This solution goes against the rule of parsimony, because according to the Nyāya-Vaiśeṣika school, a variegated colour present in the resultant substance through the direct relation *samavāya* renders that substance perceptible. The assumption of *samavāya* for explaining a causal process is simpler than the assumption of a complicated and indirect relation known as *sva-samavāyi-samavāya*. Hence, in view of the rule of parsimony, it is better to admit the emergence of variegated colour in certain substances.³³

VI

The earlier adherents of the Nyāya-Vaiśeṣika school thus tried their level best to establish the existence of variegated colour. After the eleventh century, the Buddhists gradually departed from the battlefield; but curiously enough, many of the questions raised by them continued to haunt the Naiyāyikas and Vaiśeṣikas. What is specially interesting in the present context is the fact that later Naiyāyikas like Raghunātha Śiromaṇi refused to admit the existence of variegated colour. In face of all the arguments given by the orthodox supporters of the Nyāya-Vaiśeṣika school, Raghunātha said that in the case under dispute, it is better to admit the emergence of many divergent colours that are not 'pervasively occurrent'.

If we look back at the Nyāya-Vaiśeṣika doctrines D1–D12, it transpires that the least obvious among them is D11, i.e. the contention that all colours are 'pervasively occurrent'. Raghunātha maintains that there is no evidence in favour of the contention that if a quality is 'pervasively occurrent' in some instances, it must be so in all other cases. If we agree to relax the rule laid down in D11, then we need not admit variegated colour. The rule laid down in D10 can also be suitably amended without any harm if it is said that *virodha* and

pratibadhya-pratibandhaka-bhāva between two different colours simply mean that two different colours cannot be present in the same substance with respect to the same delimitor (*avacchedaka*). Thus, in a white cloth with red borders, the white colour cannot be present in the borders, and the red threads with which the portions known as borders are made are incapable of producing any non-red colour in the resultant cloth.³⁴ Thus, the disputed or counter-intuitive notion of variegated colour can be discarded without inviting any undesirable consequences. We may end this discussion by noting that these amended versions of D10 and D11 are quite consistent with D1-D9 and D12.

VII

The arguments given by the earlier adherents may be divided into three groups. Some of them appeal to our experience, some others are heavily dependent on their basic metaphysical assumptions, and the rest of the arguments usually invoke the law of parsimony. To a neutral observer, the first and third types may carry more weight. But undue concern for parsimony may not always yield the best results. Raghunātha tried to reject the doctrine of variegated colour by adopting the 'rule of minimum mutilation' - i.e. he tried to retain most of the basic assumptions of the Nyāya-Vaiśeṣika school, and he also slightly amended two such assumptions. Nevertheless, his successors like Rāmabhadra Sārvabhauma maintained that the existence of variegated colour can be established by our experience and reasoning based on the rule of parsimony. It cannot be said that Rāmabhadra was being unduly orthodox, because he was bold enough to reject the existence of non-manifest colour. A deeper study of the arguments given by Rāmabhadra in favour of variegated colour has to be undertaken before a final verdict on this issue can be given.

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1. (a) *rūpa-dravatva-pratyakṣa-yogi syāt prathamatrikam* - BP, no. 28ab
 (b) *udbhūtarūpaṃ nayanasya gocaro dravyāṇi tadvanti...* - BP, verse no. 54ab
 (c) *udbhūtaśparsavad dravyaṃ gocaro so'pi ca tvacaḥ/
 rūpanyaccakṣuṣo yogyam rūpaṃ atrāpi kāraṇam//* - BP, verse no. 56
 (d) *mahattvaṃ ṣaḍvidhe heturindriyaṃ karaṇam matam* - BP, verse no. 58 cd
2. *trayāṇaṃ pratyakṣatva-rūpavattva-dravatvāni* - PDS, p. 63.
3. *caḥsurmātragrāhyo guṇo rūpaṃ tacca śukla-ṇila-pīta-rakta-harita-kapīśa-citrabhedāt saptavidham* - TS, p. 205.
4. *rasanāgrāhyo guṇo rasaḥ. sa ca madhura-amla-lavaṇa-kaṭu-kaṣāya-tiktabhedāt*

śaḍvidhaḥ – TS, p. 215.

5. PTN, p. 26.

6. *tatra rūpa-rasa-gandha-sparśā rūpatvādirjātiyoginaḥ. tāśca rūpādyā-kārānugatādhyakṣasiddhāḥ. te ca citrācitrabhedād dvidvidhāḥ. acitrā api nīlādī-madhurādi-saurabhādi-ṣītādhibhēdād anekavidhāḥ...* – GR, fol. 3a3b

7. (a) *rūparasagandhasparśavatī prthivī* – VS 2.1.1.

(b) *rūparasasparśavatī āpo snigdhaḥ* – VS 2.1.2.

(c) *tejo rūpasparśavat* – VS 2.1.3.

8. *mahatyanekadravyavattvāt rūpāccopalabdhiḥ* – VS 4.1.6. See also NV, pp. 489-490.

9. *satyapi dravyatve mahattve rūpāsaṃskārābhāvād vāyor anupalabdhiḥ* – VS 4.1.7.

10. See *Upaskāra* on VS 4.1.6.

11. See BP, Verse nos. 16-17.

12. (a) See BP, Verse no 18 ab

(b) *yatsamavetaṃ kāryam utpadyate tatsamavāyikāraṇam* – TS, p. 302.

13. *ayutasiddhānām ādhāryādhārābhūtānām yaḥ sambandha ihapratyayahetuḥ sa samavāyaḥ* – PDS, p. 37.

14. This is a fundamental assumption of the Nyāya-Vaiśeṣika system. One may find a statement of this principle in the following statement of Śrīdhara: *yadyapi dharmāḥ śatpadārthebhyo na vyatiricyante, kintu ta eva anyonyāpekṣayā dharmā dharmiṇaśca bhavanṭī. tathāpi teṣāṃ dharmirūpatāyā parijñānārthaṃ prthaguddeṣaṃ karoti...*NK, p. 41. Emphasis added. See also NV, p. 485 and *Upaskāra*, p. 367 for a detailed discussion.

15. (a) *kāryeṇa kāraṇena vā sahaikasminnarthe samavetatve sati yat kāraṇam tadasamavāyikāraṇam* – TS, p. 302.

(b) See also SM, pp. 105-106 and *Upaskāra* on VS 1.1.28.

16. See TSD, p. 302.

17. See VS 8.1.9. *samavāyāṣamavāyibhinnaṃ kāraṇam nimittakāraṇam* – TSD, p. 302.

18. See *Upaskāra* on VS 1.1.10.

19. See VS 1.1.28 and VS 10.2.4. along with *Upaskāra*, p. 33.

20. See KV, p. 33.

21. *rūpasya vyāpavṛttivaniyamāt* – TSD, p. 205. See also KV, p. 33.

22. *kāryam prāgabhāvapratīyogī* – TS, p. 293.

23. See VS 4.1.8-9, 4.1.11-12 along with *Upaskāra*.

24. See PV 2.69 and Manorathanandī's *Vṛtti* on it.

25. See TS verse nos. 555-617 and verse nos. 822-865.

26. This problem has been discussed in *Avayavinirākaṇa* of Paṇḍita Aśoka. Answers from the Nyāya School are to be found in texts like NV, pp. 1045-1050, NBhū, pp. 104-129.

27. The objection of the Buddhists are stated in PV 2.85-86. For the answers of Udayana, see ATV, pp. 247-260.

28. GR, fol 4a.

29. See the Bengali commentary of N.C. Goswami on TS, p. 211.

30. See the Bengali commentary of N.C. Goswami on TS, pp. 212.

31. See PV, 2.200

32. See NV, pp. 1051-1052.

33. See the Bengali commentary of N.C. Goswami on TS, pp. 211-213.

34. PTN, pp. 91-92.

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