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Volume 9

# Dignaga on the Interpretation of Signs

by

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relatively idiomatic "The cat's nose is orange." It is quite possible that this preference stems from considerations of clarity. In his study of Aristotle's formal logic, Jan Lukasiewicz notes that Aristotle preferred expressions of the form "Science belongs to all medicine" to the more natural "All medicine is science." His commentator Alexander explained that this artificiality was deliberate. Lukasiewicz summarizes Alexander's comments:

> According to this explanation, in formulae with the verb 'to be predicated of something' and, we may add, with the verb 'to belong to something', the subject and the predicate are better distinguishable *(gnōrimōteroi)* than, we may add again, in formulae with the verb 'to be'. In fact, in formulae with 'to be' the subject as well as the predicate is used in the nominative; in formulae preferred by Aristotle only the predicate is in the nominative, and the subject is either in the genitive or in the dative, and therefore can be more easily distinguished from the subject.[28]

Exactly the same observation can be made about sentences in Sanskrit, in which two words in the nominative case occurring in a sentence can easily give rise to an ambiguity as to which is the subject and which the predicate, an ambiguity that arises since the order of the words for subject and predicate is not fixed; this ambiguity is removed in a Sanskrit sentence in which the predicate is in the nominative and the subject in the locative or genitive case. Moreover, since the subject is normally expressed in the genitive or locative case in the context of discussions of logic, it is convenient to refer to the subject as a property possessor *(dharmin)* or a property locus, where the word "locus" is a translation of the technical term "*adhikaraṇa*," which in Sanskrit grammar is used to name what is conveyed by the seventh case and in philosophical discussions used in the sense of substratum or subject in which a property occurs.

In the context of a formal debate the property whose occurrence in a given locus is being argued may be called the *arguable property (sādhya)*, and the given locus in which the arguable property putatively occurs may be called the *inferable object (anumeya)* or the *subject (pakṣa) of the inference*. The *evidence (hetu)*, also frequently called the *inferential sign (liṅga)*, is to be understood as that property from which knowledge of the occurrence of the arguable property in the subject is derived. This evidence can be considered legitimate only if all of the three following characteristics occur in the property (compare p. 122):

1. The inferential sign must be a property of the subject of the inference.
2. The inferential sign must be known to occur in loci, other than the subject of inference, in which the arguable property occurs.
3. The inferential sign must not be known to occur in other loci in which the arguable property is absent.



In the context of debate, the first characteristic rules out the introduction of irrelevant evidence that has no connection with the subject of the debate. The second characteristic rules out two kinds of poor evidence. First it rules out evidence that points only to the negation of the stated conclusion. And second it rules out those properties that occur in no locus other than the subject. And the third characteristic rules out ambiguous evidence, that is, evidence that could point either to the arguable property or to its absence. Those are the three characteristics of legitimate evidence as Diṅnāga inherited them.[29]

The traditional statement of the second and third characteristics leaves room for some doubt, for the statements are not quantified. It is not, for example, clear whether we are to take the statement of the second characteristic as a universal or as a particular statement. Should it be interpreted as saying "The inferential sign must be known to occur in ***all*** loci, other than the subject of inference, in which the arguable property occurs"? In fact, Diṅnāga realized that that interpretation would lead to an unnecessarily strong statement, one that would eliminate inferences such as "Sound is transitory, because it is manmade." In this inference, the inferential sign is the property of being manmade. Obviously this property does not belong to everything that has the arguable property, transitoriness, for many transitory things are not manmade. Or, to take an example of a syllogistic form from the European tradition, the overly strong statement of the second characteristic would eliminate this inference:

1. All human beings are mortal.
2. All citizens of Tegucigalpa are human beings.
3. Therefore, all citizens of Tegucigalpa are mortal.

The inferential sign, the property of being a human being, does not belong to everything that has the arguable property, mortality. In order to ensure that the statement of the second characteristic of legitimate evidence not be taken in this overly strong sense, Diṅnāga refined the statement of the second characteristic as follows:

> The inferential sign must be known to occur in ***at least one*** locus, other than the subject of inference, in which the arguable property occurs.

The statement of the third characteristic, on the other hand, must be interpreted as a universal proposition in order not to admit a large number of arguments that are clearly faulty. For if the third characteristic were "There must be at least one other locus in which the arguable property is

absent in which the inferential sign is known not to occur," this argument would be acceptable: "Sound is eternal, because it is incorporeal." For the arguable property, being eternal, is known not to occur in pottery in which the inferential sign, the property of being incorporeal, is absent. Similarly, this argument would be acceptable:

1. Some non-birds do not live in Canada.
2. All crows are birds.
3. Therefore, all crows live in Canada.

The arguable property, the fact of living in Canada, is absent in at least one thing that lacks the inferential sign, the property of being a bird. In order not to allow obviously faulty arguments such as these to pass as reasonable, Diṅnāga reformulated the statement of the third characteristic of proper evidence to read:

> The inferential sign must not be known to occur in ***any*** other loci in which the arguable property is absent.

This refinement in the statement of the three characteristics of legitimate evidence was achieved by the introduction of the restrictive particle "*eva*" into the Sanskrit sentences stating the last two characteristics.[30] Since this innovation is rather important, it is worth considering its development in some detail here before proceeding any further.

The passage in which the use of the particle "*eva*," translated into Tibetan as "*kho na*," occurs is in Diṅnāga's own commentary to *Pramāṇa-samuccaya* 2:5cd. That discussion begins by referring to a phrase in *Pramāṇasamuccaya* 2:1 that reads "Inference for oneself consists in discerning an object through a sign that has three characteristics."

> The phrase "through a sign that has three characteristics" must be explained. [The sign is] *present in the inferable object and what is similar to it and absent in their absence.* The inferable object is a property-bearer qualified by a property. After observing [the sign] there, either through sensation or through inference, one confirms that it is also present in a general way, either wholly or partially, in what is of the same class. Why is that? Since the restriction is such that [the sign] occur in *only* what is similar, there is no restriction that it *only* occur. But in that case it could be argued that nothing is accomplished by saying "it is absent in their absence." This statement is made in order to emphasize that [the sign], being absent in the absence [of subjectlike objects] is not present in what is other than or incompatible with the inferable object.



In this seemingly simple passage Diṅnāga set in motion, probably unwittingly, a great deal of discussion over the best way to formulate the nature of the three characteristics of legitimate evidence. One philosopher who responded to Diṅnāga's introduction of the simple word "only" *(eva; kho na)* into the formula that had come down from the earlier tradition was Uddyotakara. This sharp-minded critic took great pains to point out some of the disasters that Diṅnāga is courting by introducing the restrictive particle into his discussion of the three characteristics of legitimate evidence. Let us first look at how Diṅnāga uses the particle, then turn to Uddyotakara's criticisms. In the passage under discussion Diṅnāga has stated the second characteristic as follows: "The sign is present in what is similar [to the inferable object]."[31] As it stands, this is an indefinite proposition. It can, in principle at least, be restricted in one of three ways.

First, the subject "sign" can be restricted to the predicate "present in what is similar." This allows that the extension of the predicate may be wider than the subject, and it disallows that the negation of the predicate be true of the subject. What this restriction says, in other words, is that it is not the case that there exists any locus ***L*** similar to the subject of the inference such that the inferential sign is not present in ***L***; thus, the inferential sign is present in *all* loci that are similar to the subject of inference. This universal proposition would be written in Sanskrit: "liṅgasya tattulye sadbhāvaḥ eva. (The inferential sign is only present [that is, is never absent] in what is similar.)" Diṅnāga explicitly says that he does not intend the proposition to be restricted in this manner, for it would, as Uddyotakara points out, eliminate inferences of the form "Sound is transitory, because it is manmade."

Second, the full predicate "present in what is similar" can be restricted to the subject "sign." This allows that the subject may be wider than the predicate. What this restriction says is that it is not the case that there exists any property other than the inferential sign that occurs in both the subject of the inference and what is similar to the subject in virtue of possession of a second inferable property. This universal proposition would be written in Sanskrit "liṅgasya eva tattulye sadbhāvaḥ. (Only the inferential sign [and no other property] is present in what is similar." This restriction is hardly even worth the effort it takes to point out that it is self-contradictory, since it is obvious that if the subject of inference has only one property, namely, the inferential sign, it cannot have a second property to be inferred through the inferential sign. Diṅnāga apparently saw no need to mention this second possible interpretation of the restriction.

Third, the subject and predicate "the sign is present" taken together can be restricted to the qualifying phrase "in what is similar." This allows that the extension of "what is similar" may be wider than the extension of "the sign's presence," and it disallows that the sign's presence be found in any locus of the set of loci complementary to the set of loci to which "is similar [in virtue of being a locus of the inferable property] to the subject of inference" is truly predicable. What this restriction says, in other words, is that it is not the case that the inferential sign is present in some locus ***L*** such that ***L*** is not similar to the subject of inference with respect to possession of the inferable property. But this restriction does not imply that the inferential sign is present in every ***L*** such that ***L*** is similar to the subject of inference. This is the restriction that Diṅnāga explicitly prescribes be read into his formulation of the second characteristic of proper evidence. This, however, gives rise to the question that Diṅnāga next addresses: "But in that case it could be argued that nothing is accomplished by saying 'it is absent in their absence'." The second characteristic of proper evidence apparently makes the third characteristic redundant. About this more will be said later, but let us turn now to Uddyotakara's criticisms.

The main theme of Uddyotakara's criticisms is that Diṅnāga has been unjustifiably careless in his introduction of the restrictive word "only" into his interpretation of the three characteristics. The gist of Uddyotakara's attack is as follows:

1. Diṅnāga has said nothing about whether or not the inferential sign must occur throughout the subject of inference. If characteristics two and three are to be quantified rather than left indefinite, then why should characteristic one not be quantified? Diṅnāga has taken care to spell out that a property can be used as evidence so long as it does not occur in *any* other loci in which the arguable property is absent and so long as it does occur in ***at least one*** locus, other than the subject of inference, in which the arguable property occurs. But no mention has been made of whether the inferential sign must reside in all the subject of inference or whether it is sufficient that it reside in only a part.

2. Diṅnāga has specified that the inferential sign's presence be restricted to what is similar to the subject of inference. But this surely eliminates the subject of inference itself from inclusion in the set of loci in which the inferential sign is present, for the subject of inference is not among those loci that are *similar* to the subject of inference. Thus the second characteristic of legitimate evidence, as Diṅnāga interprets it, apparently contradicts the first.

3. It is unnecessary to state both characteristic two and characteristic three as Diṅnāga has reformulated them. For the formulation of the second says that the inferential sign can occur nowhere but in loci in which the arguable property occurs, and the formulation of the third characteristic says, redundantly, that the inferential sign cannot occur in loci in which the arguable property is absent.



Now it is clear from the context of Diṅnāga's discussion what he intended to accomplish by introducing the restrictive word "only." He intended to justify his claim that an inferential sign can still be legitimate even if it resides in only *some* members of the set of loci that are similar to the subject of inference, but that it must be absent from *all* dissimilar loci. The importance of Uddyotakara's criticisms lies in his successfully pointing out that what Diṅnāga actually said is not entirely consistent with what he intended to say. The intention of stating the third characteristic, according to Diṅnāga's interpretation, is to rule out as proper evidence any property that occurs in a locus in which the arguable property is absent. It is noteworthy that, in interpreting the third characteristic in this way, Diṅnāga has not adequately answered the criticism that he himself has anticipated here, namely, the question of what this third characteristic stipulates that is not already provided for by the second characteristic. He sets out the problem clearly enough, but his answer to the question lacks the same degree of clarity. The problem bears looking at still more carefully.

It appears at first that in the prose commentary to *Pramāṇa-samuccaya* 2:5cd, characteristics two and three of legitimate evidence are to be reformulated in a different way than they were formulated in the *Hetucakranirṇaya* discussion. For according to *Pramāṇasamuccaya* 2:5cd we are to understand the statement of the association *(anvaya)* relation as being a statement that says two things:

1. The inferential sign does occur "generally" with possessors of the arguable property, as opposed to being restricted to occurring with **S**-possessors that belong to the class **P** that is the subject of the inference; in other words, **~PHS>0**.

2. The inferential sign occurs *only* with possessors of the arguable property, which means that it does not occur anywhere without the arguable property; in other words, **~PH~S=0**.

If the association relation is reformulated in this way, it alone says all that used to be said by the statement of the association relation and the statement of the dissociation relation together in the *Hetucakranirṇaya* formulation. If this is the correct interpretation of the reformulated second characteristic of proper evidence, how is the reformulated third characteristic to be interpreted? Two possibilities suggest themselves.

First, it could be that the third characteristic, which describes the dissociation *(vyatireka)* relation, is indeed redundant and does no more than to repeat part of what is intended by the reformulated second characteristic, which states the association *(anvaya)* relation. Second, it could be that the dissociation clause adds one new stipulation to what was stipulated by the original formulation. Whereas the original had said "the inferential sign must not be known to occur in any ***other*** loci in which the arguable property is absent," the reformulated third characteristic might be construed as saying "the inferential sign must not be known to occur in ***any*** loci in which the arguable property is absent." Indeed, adopting this second interpretation of the third characteristic, whereby it specifies **H~S=0**, has as a consequence that the second characteristic becomes altogether superfluous, for it would be possible to derive the conclusion **P~S=0** from **P~H=0** and **H~S=0** alone, without any reference to the association clause that says **~PH~S=0**. What stands in the way of our accepting this interpretation is that Diṅnāga clearly does not ever regard the association relation as superfluous. On the contrary, he insists that it be in place in order to disqualify one form of argument that would be considered good in the absence of the second characteristic of legitimate evidence. Diṅnāga insists at *Pramāṇasamuccaya* 2:7 that arguments of the form "Sound is transitory, because it is audible" are inconclusive. It is Diṅnāga's claim that the inferential sign, the property of being audible, does not compel us to accept that every sound has the arguable property, whatever that arguable property might be. The key question is: why are arguments of this form not conclusive? Now if the association and dissociation relations are understood as being merely contrapositives of one another, then what we should expect to find Diṅnāga saying to account for the inconclusiveness of such arguments is something equivalent to the observation that although the argument is formally valid, one of the premises is false and therefore the argument is unsound. Pursuing this possibility, let us see which premise could be false. The premise "no sound is inaudible" is true by definition, for being audible is precisely what is meant to say of something that it is a sound. Therefore, the only premise that could possibly be false is "No audible thing is non-transitory." How could this be shown to be false? It can be shown to be false if there do exist any sounds at all that begin and end. Producing an instance of a transitory sound should be easy enough, and so we should expect that if Diṅnāga ruled out arguments of this form on the grounds that a premiss of a formally valid argument was false, he would have pointed out that the reformulated dissociation relation, symbolized **H~S=0**, does not hold in the argument "Sound is transitory, because it is audible." But this is not in fact what Diṅnāga does. Rather, he says the argument is not good because it does fulfill the dissociation relation but does not fulfill the association relation. And so, we can only conclude, the association relation as described by the second characteristic of proper evidence is not superfluous after all, and the second and third characteristics of proper evidence are *not* in a position of contraposition to one another. Since Diṅnāga's statements on this issue are in a state of conflict with one another, we are not in a position to state definitively what the proper interpretation of Diṅnāga's formulation of the three characteristics of legitimate evidence is. His lack of clarity on this matter gave rise, as was mentioned above, to several centuries of bickering among his various interpreters.



What we have considered so far are the characteristics for proper evidence in the context of argument, where one is systematically communicating to another person the conclusions one has reached from certain observations. The exact interpretation of the characteristics may be in doubt, but we can at least know that in Diṅnāga's view the applicability of these three characteristics to privately reached judgements involves only substituting in the above formula the word "infer" for "argue." This will give us the formula for judgements derived from the observation of evidence. A more general formula for the test of the reliability of any judgement of the form "a certain hidden property is in a given locus" might in Diṅnāga's system of epistemology appear as follows:

> A judgement is reliable only if the following three characteristics are in place.
>
> 1. The inferential sign must be a property of the subject of the inference. That is, there exists in the subject of inference a property, which is different from the inferable property and which is furthermore evident to the person drawing the inference; this second property may serve as an inferential sign in case it has two further characteristics.
> 2. The inferential sign must be known to occur in at least one locus, other than the subject of inference, in which the inferable property occurs.
> 3. The inferential sign must not be known to occur in ***any*** other loci in which the inferable property is absent.

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# Dharmakīrti's Theory of Inference
## Revaluation and Reconstruction

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the claim that SA and PA are two absolutely different types of inference.

Every inference is not simple like that of fire from smoke. In some cases, the premises may form a complicated set with the result that without a detailed analytical examination of their logical capabilities and interrelationships, it is not possible to ascertain what they together yield. Then, even if one intends to ascertain that only for his own knowledge, he may have to present them to himself in as clear and unambiguous language as possible, and in some cases he may have to use even logical symbolism. Therefore SA may need in some cases as explicit verbal formulation as PA is said to do. Similarly, when one imagines a possible reader or critic of his views and presents them in a suitable manner to make them intelligible and convincing to him, he virtually draws a PA inference in the privacy of his mind, very much similar to the way in which he does SA. All this shows that SA may be as linguistic as PA and PA may be as knowledge-yielding to its demonstrator as SA is claimed to be to its inferer. Therefore, DU's claim that SA and PA are absolutely different from each other does not seem to be supported by the facts about the actual way or ways in which the logical act of inferring is really conducted.

It is the fact that *anumāna* is considered to be a *pramāṇa*, that is, knowledge, or a giver of knowledge, and not any feature of its logic, which seems to be largely responsible for its division into SA and PA. It is a natural question to ask of a piece of knowledge whose knowledge it is, and, similarly, of a giver of knowledge to ask to whom does it give knowledge. It is equally natural to answer the former by saying it is inferer's knowledge, or someone else's knowledge, and the latter by saying that it gives knowledge to the inferer, or to someone else. Either one of these answers makes it natural to divide *anumāna* into SA and PA, *anumāna* drawn for the inferer's cognition and *anumāna* drawn for someone else's cognition. But from it, it does not follow that as logical things SA and PA have to be absolutely different, or exclusive of each other. There may be differences between them, and it may be worth while to explain what these differences are. But to go to the length of saying that there is nothing common between them, as DU does, amounts to overshooting the target of differentiating between them. But in spite of SA and PA not being absolutely different from each other, DK's discussion of the two is worth studying and examining because the theory of inference he presents via their characterization contains a number of valuable insights.

FOUR

# *Inference for Onself* (Svārthānumāna)

## 1. Structure of Inference

In Indian logic, Buddhist as well as non-Buddhist, the structural frame of any inference *Svārthānumāna* (SA) or *Parārthānumāna* (PA) is as follows: Something, say F, is indirectly or mediately known, that is, inferred, to be present (or absent) in something else, say H. That which is thus known, or is the object of inference, as we have seen, is called *'anumeya'* or *'sādhya'* and that in which it is inferred to be located, present, or absent, *'pakṣa'*. But in *Nyāyabindu* (NB) sometimes *'anumeya'* is used to denote the *pakṣa*, and sometimes to denote the *pakṣa* qualified with the *sādhya*. In which sense it has actually been used is clear from the context, or the universe of discourse, in which it occurs. The inference of the *sādhya*, F, in H, is made possible because of the presence in H, the *pakṣa*, of a logical mark or sign (*linga, hetu*) say S, of the *sādhya*. S would be a logical mark of the *sādhya* F when there is an invariable relation, of a certain type, between S and F.

## 2. Three Features of *Hetu*

According to DK, to affirm that S is a logical mark (*hetu* or *linga*) of F is to affirm that S has three features. Therefore, as already mentioned, he defines SA as indirect cognition of the inferred object in the *pakṣa* on the basis, or ground, of a three-featured logical mark (*trirūpa linga*).[1] For

[1] *Tatra svārtham trirūpalingād yadanumeye jñānam tad anumānam*. SNS, NB, p. 98:3.

example, when A sees smoke coming from a hill, he infers the existence of fire in that hill on the ground that the existence of smoke in a thing signifies, or is an evidence, or mark, of the existence of fire in that thing. This relation between smoke and fire, being one of invariable concomitance, can be stated in the universal proposition 'Wherever there is smoke, there is fire' (x) (Sx ⊃ Fx). Here the hill in which smoke is seen is the *pakṣa* or the locus, fire is the *sādhya*, the object inferred to be present in the hill, and smoke is the *linga* or *hetu*, the logical mark, of fire. Smoke is the *linga* of fire because it has, as will be explained in the discussion that follows, what DK calls the three features, or constitutive properties, of a *linga*. The three features of a *linga* are the following:

(a) its being necessarily present in the *pakṣa*. DK uses the word '*anumeya*' for *pakṣa* here, as quoted below (see footnote);
(b) its being present only in *sapakṣa*, an object similar to the *pakṣa* in having the object or property that is being inferred to exist in the *pakṣa*; and
(c) its being necessarily absent, or being never present, in any *asapakṣa* or *vipakṣa*, an object dissimilar to the *pakṣa* on account of not having the inferred object or property.[2]

Each one of (a), (b) and (c) is a necessary feature of a *linga*, and conjointly they constitute its common, or, formal conditions because every *linga* must have all of them. Lacking any one of them would make a *linga* defective, or a non-*linga*, because a defective *linga* cannot yield a valid inference. In the inference of fire on the hill because of seeing smoke on the hill, smoke is the *linga* of fire because it has all the three features: (a) smoke is certainly present in the hill, the *pakṣa*, as it is perceived to be there, (b) it is present only in a *sapakṣa*, like a kitchen, which is similar to the hill, the *pakṣa*, in having fire, and (c) it is necessarily non-existent in an *asapakṣa*, or *vipakṣa*, like a pond, which is dissimilar to the hill because of not having fire. '*Sapakṣa*' means a thing which is similar to, and '*vasapakṣa*' or '*vipakṣa*' a thing which is dissimilar to, the *pakṣa*.[3] Similarity, as well as dissimilarity, is a one-point feature. To be a *sapakṣa* of the hill, a thing has to be similar to it only in one respect, that is, in the respect of having fire, the *sādhya* which the hill is being inferred to have. No

Of the two (SA and PA), the knowledge of the inferred object obtained by the inferer from the three-featured logical mark is his inference for himself.

[2]*Trairūpyam punarlingasyānumeye sattam eva, sapakṣa eva sativam, asapakṣe cāsattvam eva niścitam.* SNS, NB, p. 102: 5.

The three-featuredness of the logical mark consists in its being necessarily present in the locus, present only in the similar (to the locus), and never present in the dissimilar (to the locus).

[3]SNS, NBT, pp. 112–14.



other similarity is required. A kitchen is similar to the hill only in this and in no other respect. To be an *asapakṣa* of the hill, in a like manner, a thing is to be dissimilar to the hill only in the respect of not having fire. No other dissimilarity is necessary. There may exist other similarities between the *pakṣa* and *sapakṣa* and other dissimilarities between the *pakṣa* and *asapakṣa*. But these similarities, or dissimilarities, play no role in making the *sapakṣa* a *sapakṣa*, or the *asapakṣa* an *asapakṣa*.[4]

It is not by itself that a *linga* leads to the cognition of the inferred object. The unseen smoke cannot lead to the cognition of fire in the hill. It is first to be seen, cognized, in the hill. But though necessary, that too is not sufficient. The cognition of smoke in the hill can authorize one to infer the existence of fire in the hill only if it is accompanied with another true cognition that smoke is the *linga* of fire, that it has the three relevant features required of a thing to be a *linga* of the fire in the hill. The object of inferential cognition which is here, fire in the hill, as is the case with the object of any inference, is outside the zone of direct cognition (*parokṣa artha*). It is because of its link with smoke, which is its three-featured *linga*, and not because of anything else, that its inferential cognition is made possible.[5]

To infer,

(IV) There is fire on the hill

the cognition of the fire's three-featured *linga*, smoke, is necessary. The full statement of it, the *linga*, or *hetu vākya*, would run as follows: (i) There is smoke in the hill, (ii) wherever there is smoke, there is fire, as in a kitchen, and (iii) wherever there is no fire, there is no smoke, as in a pond. Each one of (i), (ii) and (iii), for DK, is a necessary condition, but only their conjunction is the sufficient condition, for drawing the inference as stated in the beginning of this section.

DK's description of the three features of the *linga*, as (i) necessarily present in the *pakṣa*, (ii) present only in the *sapakṣa*, and (iii) never present in the *asapakṣa*, is a purely formal account because all the terms '*pakṣa*', '*sapakṣa*', '*asapakṣa*', and also '*sādhya*' which too is involved in the description though it is not explicitly mentioned, are merely forms, or empty slots, to be filled in with concrete matter to make it an actual

[4]Ibid.

[5]*Tasmāt parokṣārtha nāntarīyakatayā niścayanam eva lingasya parokṣārtha pratipādanavyāpārah. Nāparah kaścit.* Ibid., p. 103.

Therefore, the ascertainment of the logical mark's invariable concomitance with the object not directly (but indirectly) cognized is alone operational in yielding the cognition of the latter. Nothing else is.

description of a particular *linga*, the *linga* of a particular *sādhya* in a particular inference, or in a particular inferential context. Like the other terms mentioned above, '*linga*' too is a contextual, or functional, term. Anything is a *linga* of anything else only if it functions as a go-between which makes possible the inference of the latter, the *sādhya*, in the *pakṣa*. This it can do only when it is used as such a go-between in an inferential context. This means that nothing is a *linga* in itself or by itself. It is its use, or performance of a certain kind of role, in an inferential network which makes it a *linga*; it makes it a *linga* in, or of, that network, and not a *linga* in any absolute sense. Therefore, smoke is the *linga* of fire only in the episode in which fire is inferred to exist in a thing because of a certain relationship between fire and smoke, and not its *linga* in any absolute sense. Doing a little bit of reconstruction on DU's explication, we can design an inference as follows,

> There is fire in that house
> because
> smell of burning leather is coming out of it, and wherever there is smell of burning leather, there is fire, as in a tannery, and wherever there is no fire, there is no smell of burning leather, as in a shoe-shop

in which the linga of fire is not smoke but the smell of burning leather. DU does not give any example of this type, nor does he explicitly mention the possibility which it exemplifies. But nothing which he has said implies that extending his explication to include this possibility would go against what he has said, or intended to say on this theme.

It is obvious from the above example that the determination of the *linga* of anything is an empirical, inductive, matter. Only by observing the relationship between fire and smoke in very many different cases can we decide that smoke can be used as a *linga* of fire in an inference, SA or PA. But giving a formal account, or definition of it, as DK has done in giving its three features, is not an empirical but a conceptual, or logical, matter, undertaken solely from the point of view of ascertaining what sorts of features a thing must have to function as a *linga* and to make the inference, in which it is used to infer that of which it is the *linga*, valid.

Of DK's formal features of a *linga*, which every *linga* must have, the second and the third are equivalent. This is so because the third 'never present in an *asapakṣa*' is only the transpositive of the second 'present only in a *sapakṣa*.' If the *linga* is to be present only in a *sapakṣa*, then it transpositively implies that it cannot be present in an *asapakṣa* (in that which is not a *sapakṣa*). Using l for '*linga*' and x as a variable for a particular



location, or object, what the second condition, 'The *linga* is present only in a *sapakṣa*', says can be stated as,

(ii) (*l*) (x) [(There is l in x) ⊃ x is a *sapakṣa*]. Similarly, what the third condition, 'The *linga* is never present in an *asapakṣa*', says can be stated as,

(iii) (l) (x) [(x is not a *sapakṣa*) ⊃ (There is no l in x)]. (iii) is obviously the transpositive of (ii) and therefore equivalent to it. After laying down (ii), the addition of (iii) in the definition is, consequently, redundant.

While admitting that (iii) is made redundant by (ii), DU tries to justify DK's retaining both of (ii) and (iii), in his definition, on pragmatic, or heuristic, grounds. His justification runs as follows.

Each one of (ii) and (iii) signifies a strict, absolute, or exclusive, condition. When so understood, each one would imply the other and make its retention in the definition of the *linga* redundant. Therefore, keeping either one of them in the definition would do. He who realizes this logical truth, even if he, for example, retains only (ii), he would not be ignoring the condition which (iii) signifies. He would take into account positive instances in which when there is smoke, fire too is present there, as required by (ii). But he would also try to be sure that where there is no fire, there is no smoke, as implied by (ii) (or required by [iii]). But if he is not logically so sophisticated as to realize that (ii) implies (iii), or that (ii) is to be taken in an exclusive sense, he may take it in a loose, liberal, or non-exclusive, sense in which it does not imply (iii). Then he would be really taking (ii) as equivalent to 'The *linga* is present in *sapakṣa*', simply requiring that wherever there is smoke there is fire, and not requiring as well, as does 'The *Linga* is present in *sapakṣa* only', that wherever there is no fire there is no smoke. He may not then confirm that the cases in which fire is absent, smoke too is absent. If there is any such instance, smoke would cease to be a *linga* of fire, and any inference in which it is used as a *linga* would be invalid. It is to avoid the possibility of such lapses, to instruct people to take (ii) and (iii) in an exclusive sense, to take into account both positive and negative instances of the *linga–sādhya* relationship, the master includes says DU, both (ii) and (iii), even though it is not necessary, or very elegant, to do that, as one of them is redundant. When both are separately stated as two conditions, a user of the theory would check both, positive and negative, sorts of cases and thereby be saved from committing inferential lapses that he is liable to by ignoring either, positive or negative, sort of cases.

DU gives an example of an invalid argument resulting from taking (ii) 'present in *sapakṣa* only' as equivalent to 'present in *sapakṣa*', and therefore taking into account only the *linga*'s presence in *sapakṣas*, and not checking its absence in any *asapakṣa*. Suppose, he says, one infers of a certain person that,

He is dark-complexioned
because
He is that woman's son,
and her other known sons are dark-complexioned.

He uses 'being that woman's son' as the *linga* of the person's being dark-complexioned and considers it a sound *linga* because he finds it supported by *sapakṣas*, her other sons he knows, since they too are dark-complexioned. He does not try to verify whether or not it is absent in any *asapakṣa*, that is, whether or not it is true that one who is not dark-complexioned is also a son of hers. The moment he comes across a person whom he has not known so far, who is fair-complexioned, that is, not dark-complexioned, and also a son of hers, the possibility of which he has not eliminated, he would realize that his inference is invalid. DU considers this inference invalid because he believes that one's being dark-complexioned is not because of his being the son of any particular woman. Rather, it is because of his mother's having eaten green vegetables during her pregnancy when she was carrying him in her womb. Whether or not we accept his view about the cause of anyone's being dark-complexioned, it is obvious that not being sure of the absence of the *linga* in every *asapakṣa* would leave open the possibility of the inference being invalid. That is, the condition (iii), 'being necessarily absent in an *asapakṣa*' may be stated separately, or understood as implied by the condition (ii), 'being present in a *sapakṣa* only'. But negative instances, of the absence of the *sādhya* necessarily accompanied with the absence of the *linga*, have to be taken into account to ensure the validity of any inference. Had the inferer in the above example taken the condition (ii) 'present in *sapakṣa* only' strictly, in an absolute, exclusive, sense, he would have realized that it implies (iii), the necessary absence of the *linga* in every *asapakṣa*. He would not have then drawn the inference he draws because he would have realized the defectiveness of the *linga* and therefore the invalidity of the inference based on it.[6]

[6]SNS, NBT, pp. 109–10.



## 3. Three Types of *Hetu*s

DK avers that not only are there three and only three constituent properties of a *hetu*, there are also three and only three types of *hetu*s.[7] The former having already been discussed in Chapter 4.2, in this section I will discuss the three types of *hetu*s, and show that the inference generated by each one of them is formal and deductive. In Chapter 9, I will discuss his claim that his three types of *hetu*s include all possible *hetu*s and there is no other which cannot be interpreted as an instance of any one of the three. His attempt to show it, I will call, his proof of the completeness of his typology of *hetu*s.

Since each one of the three features of a *hetu* is a necessary, or constitutive, feature of it, it is obvious that a fully stated *hetu vākya*, the full statement of a *hetu*'s three features, must be a three-membered conjunction. Its one conjunct would be: (a) a *pakṣa vākya*, a proposition stating the presence of the *hetu* in the *pakṣa*, another (b) a *vyāpti vākya*, an affirmative universal proposition, stating the invariable presence of the *sādhya* where the *hetu* is present, and the last too (c) a *vyāpti vākya*, a negative universal proposition stating the invariable absence of the *hetu* where the *sādhya* is absent. Since (b) and (c) are equivalent, because (c) can be obtained from (b) by transposition, as has already been shown in Chapter 4.3, even only one of them, say, (b), may be used in an example of inference to illustrate its general logical features if doing that contributes to brevity or expositional elegance.

A *hetu vākya*, the conjunction of (a), (b) and (c), is also the conjunction of all the premises of the inference whose *hetu vākya* it is. In DK's theory of inference, no other premise is required to yield the conclusion. Secondly, since conjunction is commutative, it does not matter in which order (a), (b) and (c) are placed in the conjunction which the *hetu vākya* is. Thirdly, even if (a), (b) and (c) are kept separate, that is, as (a), (b), and (c), it would not matter because from,

a
b
c

we can infer (a.b.c.).

[7]*Trirūpāni trīṇyeva lingāni.*
SNS, NB, *ca.* 115.10.
Three-featured logical marks are of only three types.

To sum up, every inference must have a *hetu*, and therefore a *hetu vākya*. Of the three conjuncts of the *hetu vākya*, of the two *vyāpti vākyās*, affirmative and negative, we may sometimes have, as already shown, only one of them because each one of the two transpositively implies the other. This means that the *hetu vākya* must have at least two conjuncts, one of which would be a *pakṣa vākya* stating the existence of the *hetu* in the *pakṣa*, the particular place, person, or thing, in which the existence or non-existence, of the *sādhya* is (or is to be) inferred, and the other the *vyāpti vākya*, affirmative or negative, stating the invariable presence of the *sàdhya* where the *hetu* is present, or the invariable absence of the *hetu* where the *sādhya* is absent. The *pakṣa vakya* is, to be elaborated a little later, an existential proposition, or a proposition with an existential claim. Therefore, since the *hetu vākya* in every inference is the complete set of its premises, every inference has to have at least one existential proposition among its premises. The conclusion of any inference is entailed by the conjunction of the premises. Therefore, it is of no logical significance if the two or three conjuncts of the *hetu vākya* are treated as distinct premises, or as the components of the *hetu vākya* which alone is treated as the single premise. Nor does the order in which these allegedly distinct premises are placed, or conjoined in the *hetu vākya*, matter because conjunction, as pointed out, is commutative.

Some non-Buddhist logicians treat the *pakṣa vākya* and the *vyāpti vākya* as two separate premises. But that alone would not make their theory of inference different from DK's. The non-Buddhist form of the inference,

> There is fire on that hill
> because
> There is smoke on that hill
> Where there is smoke, there is fire,
> as in a kitchen

is equivalent to DK's version,

> There is fire on that hill
> because
> There is smoke on that hill and
> where there is smoke there is fire, as
> in a kitchen.

Each one of the two forms can be obtained from the other. The latter can be obtained from the former by conjoining its two premises, and the former from the latter by simplifying its conjunctive premise.



The three types of *hetus* are, (i) *Anupalabdhi hetu*, (ii) *Svabhāva hetu*, and (iii) *Kārya hetu*. *Anupalabdhi hetu* is the non-cognition of a perceivable object used to infer the non-existence of the object. It is to be used when all the auxiliary conditions for the cognition of the object, like the availability of adequate light, and suitable location of the object in relation to the cognizer, are satisfied. For example, when we infer that there is no jar at a particular place on the ground that it is not perceived to be there, we use the non-perception of any jar there as an *Anupalabdhi hetu*. *Svabhāva hetu* and *Kārya hetu* are logical reasons for inferring the existence of a property in a thing from the existence of another property in it. A plant's being a *Śimśapā* (a tree of a particular species) is a *Svabhāva hetu* for inferring that the plant is a tree. A *Kārya hetu* is the effect of a thing when its existence is used to infer the existence of its cause. When we use the presence of smoke at a place to infer the existence of fire there because smoke is the effect of fire, we use the presence of the effect–object, smoke, as a *Kārya hetu* for inferring that of the cause–object, fire. The logic of each one of the three types of *hetus* will be discussed separately, beginning with that of *Anupalabdhi hetu* in the next chapter.

# Logic, Language and Reality

*Indian Philosophy and Contemporary Issues*

BIMAL KRISHNA MATILAL

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Naiyāyika like Vardhamāna should explain these verses of Dignāga without reading his *Svavṛtti* on them. It is, however, conceivable that in the Mithilā Seminary where Vardhamāna Upādhyāya received his education, Dignāga's text was not available.

## § 1.7 : The 'Triple-Character' Of Reason

Inference leads to knowledge when it is based on an adequate evidence. An evidence is adequate when it not only suggests that something may be the case, but also excludes the possibility of the case being otherwise. When an evidence only suggests, we have a guess-work. When further it removes other possibilities, we have an inference.

Imagine the following dialogue :

M—Rama was born at midnight on January 31, 1970, at a town called Dee, (and he was the only child born there at that moment).

N—Oh ! Then Rama must be a happy man.

M—Why ?

N—I have never seen a man born on that date in that town to be unhappy.

M—But, have you seen such a man to be happy ?

Is the last question a stupid one ? If not, then we might have resolved a problem that is faced by any modern interpreter of Dignāga's theory of inference based upon what he called 'triple-character' *hetu*. For, we may rewrite the above as:

M—*a* has *H*.

N—Oh ! Then *a* has *S*.

M—Why ?

N—I have never seen something having *H* but not having *S*.

M—But, have you seen something having *H* along with *S* ?

I shall explain that here M is simply insisting, as Dignāga did, that all the three characters of the *trairūpya* doctrine are jointly needed to give the sufficient condition for an adequate *hetu*.

To explain the Buddhist view of knowledge, we have to mention two kinds of knowledge or knowing episode. Both are claimed to be cases of cognitive awareness that arise as episodes. There



is no ownership of such episodes (for there is no person *distinct* from the 'aggregate' of such episodes and much else besides) but each such episode is a discrete member of some awareness-series or other. Hence, we can say that each awareness-episode belongs to a particular awareness-series (an awareness-series is only a continuous sequence of distinct awareness-episodes which are connected *causally* in some relevant sense—the relevant sense being such that the latter is *dependent* upon the former for its 'origination'). Hence, only in a figurative language could we say that an awareness arises in a 'person', or that a 'person' owns the awareness.

In order to be a knowledge-episode, a cognitive awareness must be certain. This element of certainty is shared by both kinds of knowledge that we shall be talking about. But there are two ways of ensuring this certainty, the *direct* way and the *indirect* way. "Ensuring certainty" implies removing doubt, i.e., all possibilities of error. It is agreed that error creeps in as we let our mind, our fancy (imagination = *vikalpa*) take over. Hence, the *direct* way to ensure certainty is to prevent the play of fancy before it sets in. Prevention is much better than cure. This is possible only when the pure sensory awareness presents the datum (we call it the 'percept') untainted by any imaginative construction (or any play of fancy). This is, therefore, the first kind of knowledge, according to Dignāga : sensation or sense-perception. Each such sense-perception perceives also itself. Therefore, each perceptual event, according to Dignāga, has the following structure : [percept—perception (percept)—(self-) perception]. Each percept is a unique particular. Perception is knowledge because the unique particular shines here in its own glory, uncoloured by any play of fancy, any operation of the mind. This is the much-coveted epistemologist's foundation. For Dignāga, it is not simply a foundation; more importantly, it is knowledge *par excellence*.

There is an *indirect* way of ensuring certainty, according to Dignāga. This is not a preventive measure as before, but a curative measure. The play of fancy is allowed to set in, but possibilities of error are gradually removed. A doubt is transformed into a certainty, for, the grounds for doubt are all removed or destroyed. This can happen either through the employment of an inferential mark called the 'indicator' reason

(*liṅga*), or through a proper linguistic expression, a word (*śabda*). In both cases we deal with a general notion of *sign*. It is through the route of a sign that we are led to the object, finally the particular. Since we are not directly confronted with the object, we cannot take the direct route. We cannot prevent the operation of the mind before it sets in. We, in fact, let our fancy play, and then use it to reach the required certainty.

How does a sign lead to the knowledge of the object ? It would be highly uninteresting if we say that there will be a particular sign for each particular object, so that seeing the sign, we would know that the object is there. Seeing my friend's car parked outside, I know that my friend is in. But it is more interesting and non-trivial when we can talk about a general sign for a number of particular objects. In the previous case, we have to see not only the sign, but also, at least once, both the sign and the object together in order to learn that it is the sign of that object. In the latter case, we connect a general sign with a general concept under which several particular objects fall. In fact, the general aspect of the sign is connected with the general aspect of the objects concerned. Seeing, or obtaining, a particular sign, we consider its general aspect and from the general aspect of the sign we are led to the general aspect of the object. Our mind, our 'imaginative' (constructive) faculty, will take us that far. But if the connection between the general aspects is the *right* one in the manner (to be described below) the general aspect will remove all rival possibilities or opportunities for all errors, to lead us to the certainty that there is a particular object there, an object that falls under that general concept.

What is a sign? Dignāga said that any object can be the sign for a second object, provided (1) it has been observed to be with the second object at least once, and (2) no example of the 'contrary possibility' has been observed or cited. A contrary possibility would be a case where an instance of the sign is present but not the object signified by it. The first condition could be called suggestion of the possibility, while the second, exclusion of the contrary possibility. Our knowledge of the sign will lead to knowledge of the object, provided certainty is reached through this dual procedure: the possibility is



suggested begetting an uncertain awareness and contrary possibilities are excluded yielding certainty.

Dignāga used the above theory of sign and object to show how, apart from sensory perception, inference and linguistic utterance yield knowledge in the *indirect* way. A body of smoke is observed with a body of fire suggesting the possibility of one being the sign for the other. This means that sighting of a fire or a body of smoke may lead to a doubt : perhaps, there is also smoke (or fire, as the case may be) there. In such cases, the two conditions of the triple-conditioned *hetu* or the inferential mark (*trairūpya*) are fulfilled, according to Dignāga, and hence, only a dubious awareness can be generated as a result. For certainty, we need the third condition called *vipakṣa-vyāvṛtti* or, in our language, 'exclusion of other possibilities'. This needs awareness about the absence of any example ('counter-example')—a case *where* the sign is present but the object is not. Now, this also determines which one of the two, fire or smoke, in the previous example, could be the sign or the inferential mark or indicator, and which one would be the object, the inferable object. Examples of fire without smoke are easily available, but none of smoke without fire. Hence, our sighting of a body of smoke suggesting the possibility of fire makes it certain by excluding any contrary possibility, viz., that of there being smoke somewhere even when no fire is there.

The above way of putting matters, as far as inference is concerned, would raise problems for logicians; but with Dignāga, the epistemologist, this would be unproblematic. For the logicians, inference of fire from smoke would arise from the relation that we have pinpointed as 'exclusion of the contrary possibilities' (or 'absence of a counter-example'). But, the above way of putting matters would be psychologizing logic. For logic, it does not really matter how a person argues or arrives at other inferential conclusion (by first noticing the suggestion of the possibility and thereby entertaining a doubt and then arriving at a certainty). It would be enough to say that $A$ is a logical sign of $B$, provided $A$ is such that no case of $A$ is a case of non-$B$, or, what comes to the same thing, that every $A$ is $B$. The only assumption needed here would be that there are $A$'s and $B$'s. In this way, it will be argued, logic can be freed from the fault of the psychologism.

While I fully approve of the way logic is to be done, or is being done today without reference to psychological or epistemological implication, I would like to maintain that the above way of psychologizing logic is not a totally censured procedure. For, we are not interested here in the particular way a person infers or derives his conclusions, but rather in the general 'impersonal' conditions or factors that give rise to knowledge-episodes and other awareness-episodes. Besides, each knowledge-episode is identified by virtue of what is 'contained' in it or 'grasped' by it, and not by virtue of its ownership. And what is contained in such knowledge is derived from what is expressed or expressible by a corresponding utterance or linguistic expression. Logic which seems to avoid psychologism deals, nevertheless, with sentences, utterances, statements or propositions. To be sure, utterances are no better than episodes (similar to our knowledge-episodes), and propositions are no worse than abstract entities.

Conceding in this way the charge of psychologizing logic (psychologism is not always a crime), we may return to Dignāga, the epistemologist. One of the traditional problems, that survived for long in the history of Indian logic, one that has at the same time been a puzzle for modern researchers in Indian logic, is the following : Of the so-called triple character of the *hetu*, the indicator-reason—1. the indicator-reason is to be present in the case (or all the cases) under consideration, 2. it is to be present in a case where the object to be inferred is present, and 3. it is to be absent from the cases wherever the object to be inferred is absent—it seems that not all the three are jointly necessary. Even if 2 is not interpreted as 'it is to be present in all cases where the object to be inferred is present', it seems clear that 1 and 3 together would be sufficient to make the indicator-reason adequate to generate a sound inference. This apparently falsifies Dignāga's insistence upon the necessity of 2 along with 1 and 3 as constituting the required sufficient condition of the indicator-reason.

I have already said that part of our problem arises as soon as we switch from epistemology to logic. In epistemology, our problem is to find how certainty is to be attached to an awareness-episode, when the said *direct* route to certainty, disallowing the mind or the play of fancy to operate, is not available. It is to be observed that an awareness-episode may



very well be true or fact-corresponding, even when it lacks the required psychological certainty. For, it lacks certainty when and only when proper evidence or argument cannot be given. But this does not affect the fact of its being true. The epistemological enterprise is to supply the required evidence or argument, so that we may not attach psychological certainty to a false awareness. (Because very often we feel sure even of our false awareness.) Thus, if the proper evidence or argument can be adduced, we can eliminate *false* psychological certainty, and arrive at what we may now call logical certainty. Psychological certainty is simply subjective, while logical certainty is supported by an evidence or reason.

In inference, an awareness of $A$ (the indicator-reason) with regard to a particular case or a set of particular cases (called *pakṣa*) leads to an awareness of $B$ (the inferable object property). First, we have to grant that the awareness of $A$ with regard to the particular place or places must be certain, if it has to yield certainty in our awareness of $B$ with regard to the same place. The situation is that : certainty of $A$ with regard to the particular place coupled with some additional information will yield certainty of $B$ occurring in the same place (*pakṣa*). This additional information comes from our previous knowledge. An assumption is made, namely, if a rule or pattern emerges from previous knowledge we may hold it true also for the case under consideration. Therefore, if previous knowledge yields that contrary possibilities (possibilities of there being $A$ without there being $B$) are absent, we may hold the same to be true in the case or cases under consideration. In this way, the indicator-reason $A$ will fulfil the third and the first condition of a proper *sign* and thus we may reach the required certainty. But Dignāga insisted that something more is needed as the additional information from previous knowledge in order to lead us to the required certainty : condition 2. In other words, exclusion of contrary possibilities is not enough, information about an actual case of co-occurrence of $A$ and $B$ in a place is to be supplied from previous knowledge in order to ensure the required certainty. Why? Is it not enough to know that there cannot be absence of $B$ in the present place, i.e., the case under consideration, for there is $A$ ? What, in other words, did

Dignāga have in mind when he insisted upon the second condition as being necessary?

A tentative answer is the following. We find it easier to collect from previous knowledge some information about a co occurrence of *A* with *B* than that about the exclusion of the contrary possibilities. Hence, we can imagine that the citation of a case of co-occurrence would bring us nearer to certainty. That is, a doubt whether there is *B* or not would be brought within the range of possibility. Next, the exclusion of contrary possibilities would assign the required certainty. This answer seems plausible if we regard Dignāga as being concerned here only with the psychology of inference, and not with logic. But I would now argue that this answer is wrong, for Dignāga cited definite examples where such gradual steps, viz., doubt—possibility—certainty, have not been marked separately. This leads us to the consideration of those particular examples where contrary possibilities are eliminated but it is not possible to obtain examples of co-occurrence from previous knowledge, for, *A* is such that it could be and is present only in the given places, i.e., the cases under consideration. In other words, *A* is a unique mark or character of the *pakṣa*, the case (or cases) under consideration : For example,

P1. Sound has impermanence, for it has sound-hood (or audibility).

It does not seem counter-intuitive to say that sound-hood or being sound (a noise) cannot be the logical mark or basis for inferring impermanence. If, however, we reformulate the argument as given below, as is the practice with most modern writers of the History of Indian logic, it seems logically impeccable.

P2. Whatever is a sound or is audible is impermanent. This is audible (a sound). *Ergo*, this is impermanent.

I submit that P2 cannot be a proper reformulation of P1. For P1 does not want to show, as P2 wrongly assumes, that a particular case is a case of sound (an audible object) and, therefore, it is impermanent. Rather it tries to show that all cases of sound are impermanent, for, they are simply the cases of sound. I shall, therefore, dismiss P2 as a reformulation of P1, and consider



only P1 instead. It should also be noted, in the light of my previous comments, that the proposition 'Sound is impermanent' may very well be true or the awareness that sound is impermanent may be fact-corresponding, but Dignāga's claim here is simply that it lacks the required logical certainty (in the sense defined earlier).

We can now face the question of justifying this claim. If the contrary possibility of something being a sound and not impermanent has been excluded by the information available from previous knowledge, (i.e., by the available information), why can't we decide that sound (all cases of sound) is impermanent ? Here we reach the crux of the matter. We have to remember that all cases of sound are not (at least, in principle) part of the available information. They lie outside the domain which is constituted by available information. We are only certain of one more thing : sounds are sounds, or have sound-hood, (or have audibility). This is an *a priori* certainty. But this does not guarantee that cases (instances) of sound are the kind of things of which impermanence or permanence is predicable. It could be that sounds are neither. Such a guarantee is available only if we could cite a case, independently of the present situation, where both the indicator-reason and the inferable object exist together, and show that the present case is similar to such a case. This is, therefore, part of the justification for Dignāga for not being totally satisfied with the exclusion of contrary possibilities (*vipakṣāsattva*), and thereby insisting upon the citation of a similar case or a case in point (*sapakṣasattva* = *sādharmyadṛṣṭānta*). P1 is, accordingly, declared as inconclusive or uncertain. Hence, it is not a deductively valid argument—and as P2 is). It is being declared as uncertain, because it is quite a different sort of argument whose certainty is not determinable.

The above discussion raises many fundamental philosophical and logical issues—issues connected with the meaning of negation, logical negation and contraposition, contradictories and contraries, possibility and certainty. While I do not wish to enter into such issues in the present context, I would claim that all these issues are relevant here. Briefly, I would note a couple of points. First, the above justification assumes that lack of togetherness of *A* with non-*B* does not necessarily imply togetherness of *A*

with *B*. As Richard Hayes[1] has rightly stated, while 'Every *A* is *B*' may presuppose (as it does in the interpretation of the Aristotlian syllogistic) that there are *A*'s, 'No *A* is non-*B*' may not, under this theory, presuppose that there is at least one *A* which is *B* also. For, as I have already argued, all *A*'s may be such things with regard to which the question of their being either *B* or non-*B* does not arise. Hence, 'an *A* is neither *B* nor non-*B*' is a further possibility that is not eliminated by the exclusion of the contrary possibilities. And since such a further possibility is not eliminated, the required certainty that the case under consideration is *B* is not reached. Citation of a 'positive' example with *A* and *B* together eliminates the said third possibility, and thereby leads us to the required certainty.

From what has been stated so far, it follows that 'not non-*B*' is not always equivalent to '*B*', for, sometimes it could mean something with regard to which the question of being either *B* or non-*B* does not arise. Further, *B* and non-*B* are not contradictories, in this way of looking at things, since they can only be contraries in the sense that they both may fail to apply to some cases (which are neither *B* nor non-*B*).

[1]Richard Hayes : "An Interpretation of *Anyāpoha* in Dignāga's general Theory of Inference," *Buddhist Logic and Epistemology*, ed. B. K. Matilal and R. D. Evans, 1986, Reidel.

CHAPTER TWO

# PROBLEMS OF PHILOSOPHICAL LOGIC IN NAVYA-NYĀYA

## § 2.1: Empty Terms

Too often Indian philosophy has been described as primarily metaphysical or theological in character and hence opposed to rational discussion. Navya-Nyāya, as well as the tradition from which it stems, is a clear proof that there has existed in India for a considerable period of time a rigorous system of thought less concerned with "the eternal verities" than with human knowledge open to verification and rational procedures. This system well deserves a prominent place in any history of Indian philosophy.

Researches in Navya-Nyāya usually take either of two forms. The first form, mainly historical and philological, is represented by the recent works of Erich Frauwallner of Vienna and his students.[1] The second form is usually characterized by systematic translations of certain texts and critical analysis of some theories and techniques. The work of Daniel H. H. Ingalls exemplifies this second kind of approach to Navya-Nyāya, notwithstanding the fact that he added in Section I of his book the results of his

[1]Frauwallner, E. "Prabhākara Upādhyāya," *Wiener Zeitschrift für die Kunde Süd-und Ost-asiens* 1965, p. 198ff.
"Die Lehre von der zusatzlichen Bestimmung in Gaṅgeśas *Tattvacintā-maṇiḥ*," *Vienna Acad.* 266.2, 1970.
"Raghunātha Śiromaṇi" *WZKSO*, 10, 1970, pp. 86-207; 11, pp. 140-208; 14, pp. 161-208.