

## Some Issues of Scholarly Exegesis (In Indian Philosophy)

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**Abstract** The article deals with some facets of the phenomenon of the under-determination of meaning by (linguistic) data which are particularly relevant for textual exegesis in the historico-philological disciplines. The paper attempts to demonstrate that lack of relevant information is by no means the only important reason why certain issues of interpretation cannot be definitely settled by means of traditional philological methods but that the objective non-existence of pertinent data is equally significant. It is claimed that the phenomenon of objective under-determination possesses among others two major consequences: (1) A strict separation between the exploration of the history of (Indian) philosophy and philosophical criticism is theoretically incorrect. (2) Transference of indeterminacy and vagueness to the target language in translations of textual sources is not only legitimate but sometimes most appropriate. Presumably the relevance of the discussed issues is not strictly confined to the area of Indian philosophy.

**Keywords** Textual exegesis · Indian Logic · Semantics and linguistic communication

### I

The present article concerns a number of issues of textual exegesis which deserve more intense contemplation. Although all the pertinent problems are discussed with regard to the study of Indian philosophy, specifically the area which is often called ‘Indian Logic’, their relevance is not strictly confined to

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that realm. This holds true in particular for the subject matter dealt with in the last chapter whose significance transcends the domain not only of Indian philosophy but also that of Indian studies in general. The topics considered below have also a bearing on the question of the adequacy of the academic training imparted.

It appears that there are shortcomings impairing historically and philologically orientated investigations of Indian philosophies that can be subsumed under two categories: (1) An inclination to neglect the aspect of objective properties of the subject-matter to which investigated texts or textual passages pertain, combined with a tendency to disregard the dimension of the (objective) nature of philosophical problems that are at stake. (2) A bias towards language-specific features, in particular grammatical properties of individual languages in which textual sources have been written, entailing a lack of concern for principles of language use as well as general features shared by various natural languages. The phenomenon that apart from lexical and syntactic facts pertaining to some individual language, such as Sanskrit, other linguistic, most particularly pragmatic, aspects are usually given far less attention is presumably a manifestation of that attitude. In the following paragraphs we will try to demonstrate why more attention to matters lying beyond the scope of traditional grammars is needed for securing a sufficiently sound fundament for textual exegesis. For this purpose various issues affecting scholarly criticism and academic debates will be brought into focus. This approach entails a number of methodological advantages: 1. In particular cases it is possible to attain absolute certainty concerning the fact *that* certain specimens of interpretation are incorrect. 2. One can present quite a precise explication of the consequences entailed by the concerned exegetical failures. 3. It is feasible to provide a clear account of the underlying principles generating the pertinent phenomena. 4. It can be made plausible that the principles identified in this connection equally affect the exegesis of other textual documents, in particular textual sources of the Indian tradition of thought. These four propositions together are suited to support the contention that prevailing methods of exegesis cause imperfections regarding the analysis of Indian philosophies. A reason why the relevance of the present enquiry is not strictly confined to the realm of Indian philosophy lies in the fact that in this connection some elementary and formal issues of exegesis come into play.

## II

A critical discussion of some issues which have been brought up in the context of a short review of my book *Vier Studien zum Altindischen Syllogismus* (VSS) published by Birgit Kellner (BK) furnishes a suitable starting point.<sup>1</sup>

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<sup>1</sup> Kellner (1997).

At first glance it could appear that merely a misunderstanding is at stake. But I assert that the matter involves essentially more than this.

Kellner (1997, p. 383) contends that in VSS, p.208, Vyomaśiva is mistakenly described as holding that the *udāharaṇa* alone, instead of both *hetu* and *udāharaṇa*, guarantees for the *bahirvyāpti*. It is in fact stated on page 208 of the book<sup>2</sup> that according to the view of the author of the *Vyomavatī* the third member of the Indian syllogism, the *udāharaṇa*, obviously possesses the function to ascertain the ‘external pervasion’ between a logical reason and a property to be proven, whereas the *anusandhāna* or *upanaya* establishes a corresponding ‘inner pervasion’.<sup>3</sup> Couched in less technical terms the assertion is that a member of the Indian syllogism which is conventionally labelled ‘example’ should serve to ascertain that in the realm of entities in so far as they are (numerically) different from the ‘substratum of inference’, technically named *pakṣa*, some property or quality, which in some context of inference or proof performs the role of a *probans*, is ‘invariably connected’ with some other property or quality playing the role of a *probandum* in the same context of inference or proof. This means that the ‘example’ establishes that in the domain apart from the substratum of inference or proof it holds good that wherever the proving quality is instantiated the quality to be proven is instantiated too. In contrast, the subsequent member of the syllogism, technically termed *anusandhāna* or *upanaya*, performs, according to the suggestion made in VSS, the function to establish that an analogous concomitance holds true for the (realm of) the substratum of inference too so that one could metaphorically say that in the *anusandhāna* a relationship which holds true in some domain is ‘extended’, ‘transferred’ or ‘extrapolated’ to another domain. If one spells out the situations in which the conditions stipulated by the two pertinent two members are met, it turns out that the propositions corresponding to the *udāharaṇa* and the *anusandhāna* (or *upanaya*) respectively are logically independent of each other, i.e. neither does the first entail the second nor is the first entailed by the second. This is the most vital consequence in the context of discussion.

Now, a few pages earlier in VSS, namely on p. 199 in the context of a quite literal paraphrase of the wording of the section of the *Vyomavatī* dedicated to the defence of the *pratyāmnāya* or the *nigamana*, the fifth member of the syllogism, it is explicitly stated that (the author of the *Vyomavatī* acknowledges the contention that) the *hetu* and *udāharaṇa* establish the external or outer pervasion and the *upanaya* the inner pervasion after by the formulation

<sup>2</sup> Oetke (1994a)

<sup>3</sup> ‘Das dritte Glied, *udāharaṇa*, dient nach Ansicht des Autors der VM offenbar dazu, eine sog. “äußere Umfassung” zwischen beweisender und zubeweisender Beschaffenheit aufzuweisen, während im *anusandhāna/upanaya* kundgegeben wird, daß (nach Ansicht des Proponenten) auch eine „innere Umfassung“ zwischen diesen beiden Beschaffenheiten besteht...’

of the *pratijñā*, i.e. the thesis, the object has been ascertained.<sup>4</sup> This is precisely the view which is, according to BK, the only correct one. Why is it asserted on p. 208 that the third member, the *udāharaṇa*, and not the *udāharaṇa* plus the second member, the *hetu*, ‘guarantees for’ the outer pervasion? Isn’t this a striking contradiction? To be sure, if it is, then this flaw could hardly be plausibly explained by a neglect of ‘background discussions’ on the part of ‘eminent Jain logicians’ such as Pārthakesarin or Siddhasena Divākara and others, an omission which BK finds objectionable. For the incongruity is purely immanent. It could rather indicate a premature senility on the part of the writer of VSS than a shortcoming of a particular methodological approach. But is BK’s assumption of a disagreement really true? Is there a contradiction at all?

To view the matter with a little more clarity let us pose the question of what might be an objectively appropriate reason to embrace the contention mentioned in the above quoted passage to the effect that *hetu* and *udāharaṇa* together establish an external pervasion. Apparently one can give a pretty straightforward reply to the question. To facilitate insight into the subject matter let us think about the issue against the background of the standard example of an inference of fire indicated by the existence of smoke on a mountain and consider the following syllogism:

(S)

- Pratijñā*: Mountain M is an object where fire occurs.  
*Hetu*: Because (mountain M is an object where) smoke occurs.  
*Udāharaṇa*: In the universe of all objects different from mountain M it holds generally good that if smoke occurs then fire occurs too.  
*Upanaya*: The situation concerning mountain M in the respect that is relevant here is exactly like the situation that holds good in the universe of all objects different from M, i.e. it holds true for mountain M in the same manner as for all other objects that if smoke occurs somewhere then fire occurs too.  
*Nigamana*: (Therefore it is true that/it is justified to assert that) mountain M is an object where fire occurs.

It should be plain that if the proposition expressed in the *udāharaṇa* is true it follows that an invariable concomitance exists between the properties or qualities of a) being an object where smoke occurs and of b) being an object

<sup>4</sup> ‘Denn es verhält sich so: Wenn, nachdem durch die Formulierungen der *pratijñā* der Bereich (des Objektes) festgelegt wurde, durch *hetu* und *udāharaṇa* die äußere Umfassung erwiesen und durch den *upanaya* die innere Umfassung aufgezeigt worden ist, [ergibt sich] mit Notwendigkeit der Erweis des erwünschten Gegenstandes. Dies ist richtig ...’

where fire occurs as far as the realm of all objects that are different from the pertinent substratum of inference, i.e. mountain M, is concerned. It is, on the other hand, equally plain that from this fact alone it does not follow that the property or quality of being an object where smoke occurs functions as a logical reason in some proof. It is only the combination of the propositions corresponding to the *hetu* and the *udāharāṇa* which implies on the one hand that being an object where smoke occurs functions as a pertinent *hetu* and on the other hand that (the occurrence of) this *hetu* is invariably connected with (an occurrence of) the property of being an object where fire occurs in the realm of objects which are numerically different from the pertinent substratum of inference, i.e. mountain M. Let us employ the term ‘external pervasion’ to refer to any situation in which two properties or qualities are connected in the described manner in the realm of objects different from a substratum of inference. Then one must say that (the truth of the proposition corresponding to) the third member, the *udāharāṇa*, guarantees the existence of an outer pervasion with respect to a) being an object where smoke occurs and b) being an object where fire occurs in the above considered example. *Mutatis mutandis* the same holds true for all inferences belonging to the type exemplified by (S). On the other hand, it is only the truth of the propositions corresponding to the *hetu* and the *udāharāṇa* which can guarantee that an outer pervasion with respect to the pertinent properties (of being an object where smoke occurs and being an object where fire occurs) holds good *and that in addition* the first of those properties functions as an indicator and the second as a quality whose occurrence in some substratum is to be inferred. Again, the same holds good *mutatis mutandis* for all inferences belonging to the type exemplified by (S).

The difference which is at stake here corresponds to two different readings of the sentences ‘The truth of the propositions corresponding to the *udāharāṇa* guarantees that there is an outer pervasion between the property used as a logical indicator and the property used as a *probandum*’ or ‘The *udāharāṇa* establishes an outer pervasion between the properties functioning as *hetu* and *probandum*’ and similar ones. This difference is associated in logical theory with terminological distinctions, such as *de re* versus *de dicto*, ‘long-scope reading’ versus ‘narrow scope reading’, as well as ‘referential reading’ vs. ‘non-referential reading’. Let us consider the last example to make the decisive point fully clear: One can unmistakably discern that the phrase possesses two different readings which could be put into relief by the following paraphrases: (a) ‘There is a property functioning as a *hetu*, namely ..., and a property functioning as a *probandum*, namely\_ \_ \_ , and the *udāharāṇa* establishes an outer pervasion between ... and \_ \_ \_’ (b) ‘The *udāharāṇa* establishes that there is an outer pervasion between the property functioning as *hetu* and the *probandum*’ — or, more explicitly: (a)\* ‘The *udāharāṇa* establishes an outer pervasion between that which, as a matter of fact, functions as *hetu* and that which, as a matter of fact, is a *probandum* (in a pertinent context of inference)’ and (b)\* ‘The *udāharāṇa* establishes that two properties which as a matter of fact function (in some context of inference) as *hetu* and as *probandum* exhibit outer pervasion and that those two properties function as *hetu*

and as *probandum*'. There is no doubt that (b)/(b\*) is false. But there is equally no doubt that deriving from the falsity of (b)/(b\*) the falsity of (a)/(a\*) can only rely on a confusion. It should be clear how the distinction between the readings can be applied to the pertinent example. One can generally ascertain for verbs, such as 'establish', 'prove' and similar ones, that expressions of the form 'x establishes/proves/... that m is F' can be read either in the sense of 'For some y, such that y is m, x establishes/proves/... that y is F' or in the sense of 'x establishes/proves/... that for some y, such that y is m, y is F'.

The remark of the *Vyomavatī* to the effect that *hetu* and *udāharana* establish the outer pervasion is objectively appropriate if it refers to an ascertainment of a proposition that corresponds to (b) or (b)\*. On the other hand, it should be evident that if one poses the analogous question as to what would objectively justify the remark on p. 208 in VSS another interpretation is needed: The remark that the third member of the syllogism, the *udāharana* establishes an outer pervasion is only legitimate if it relates to a corresponding *de re* or wide-scope reading of the quantifier (and assignment of narrow scope to the verb) and if its import corresponds to the following paraphrase: With respect to something which functions as a *probans* (such as smoke) and something which functions as a *probandum* (such as fire) the *udāharana* establishes an invariable concomitance in the domain of entities different from the substratum of inference.<sup>5</sup> This was in fact the intended interpretation, even if at the time of writing the sentence there was no explicit thought to the effect that not an opaque but a transparent reading is the intended one.

It is no accident that the matter depicted under the non-referential perspective in the *Vyomavatī* has been assessed under the referential aspect in VSS. The underlying intention of the statement in VSS, which BK found objectionable, was to present a formulation of the *specific* contribution of the third member in the framework of the 'syllogistic' schema presented above. This objective forms a part of the comprehensive goal of ascertaining with respect to *all* the five members their specific function in the framework of the syllogism. Even in view of the circumstance that the existence of a separate function cannot be taken as axiomatic from the outset, an exact determination of possible roles played by individual members is a necessary requirement for the examination of the issue. In the pertinent passage of the *Vyomavatī* the question of the particular function of the *udāharana* is not the focus of attention. Hence there was no motivation for the author of the text to express

<sup>5</sup> Or slightly more technical, but even more explicit: 'There is some *h* functioning as a *probans* (in some context of inference) and there is some *s* functioning as *probandum* (in that context) and the *udāharana* establishes that in the domain of particulars numerically different from the *pakṣa* *h* is invariably connected with *s*.'

precisely the fact that has been stated in VSS.<sup>6</sup> Presumably BK has failed to notice those contextual aspects.

The postulate to take into account the question of what objectively justifies a statement or an opinion manifested in some textual passage is not merely pertinent in the context of scholarly disputes. It is equally important in the framework of the interpretation of textual sources of a foreign cultural tradition. Suppose we would encounter in some Indian philosophical treatise a statement to the effect that it is the *udāharaṇa* which establishes an outer pervasion between *probans* and *probandum*. An implementation of the principles used by BK would yield the consequence that the writer of the concerned text must have maintained a position that differs from that advocated in the *Vyomavatī*. But the result can nevertheless be false or crucially misleading. There must be no substantial difference of opinion or theoretical outlook. The divergence can merely consist in the circumstance that different aspects of some subject matter are highlighted in different textual sources. Is it unrealistic to suppose that some textual source might contain a statement deviating from the above quoted portrayal of the *Vyomavatī* in the envisaged manner? Surely not. It is conceivable that even some Indian author intended to spell out the specific individual contribution of the *udāharaṇa* within the ‘five-membered syllogism’. There is not even a compelling reason to suppose that the writer of the *Vyomavatī* would have rejected the above indicated view regarding the specific function of the *udāharaṇa*.

Although it appears evident (to me) that BK failed to correctly grasp the relevant import of the statement made in VSS, this issue is not the most vital one. More important—and more interesting—is rather the question: *Why* was the decisive point ignored? There is only one plausible answer: A most essential ingredient of the problem has been missed because BK did not explicitly ask the question of what could objectively justify the remark made in the *Vyomavatī* and what would justify the remark occurring on p. 208 in VSS. It is conceivable that this omission has been reinforced by an ideology of a philological tradition entertaining an unrefined conception of interpretation as reconstruction of items that were at a certain time ‘in the mind’ of some writer. Apart from this, a non-awareness of crucial semantic and logical distinctions, in particular of differences embodied by the contrasting terms *de re*—*de dicto*, ‘referential’—‘non-referential’, ‘transparent (reading)’—‘opaque (reading)’, in combination with a neglect of features of language and linguistic

<sup>6</sup> In the *Vyomavatī* the statement claiming that the outer pervasion is established by *hetu* and *udāharaṇa* appears in a context in which the relevance of the fifth member, the *pratyāmnāya* (= *nigamana*), should be defended and where the question of the specific contribution of the third is immaterial. Therefore it suffices to pose the question as to whether the members two and three taken together in combination with the first member, the *pratijñā*, and the fourth member, the *upanaya*, render the fifth member redundant.

communication that are not language specific and not characteristic of some particular linguistic community can have impeded a satisfactory handling of the issues at stake.

The present example brings to light a number of facts pertaining to interpretation and exegesis.

First it demonstrates the significance of the fact that many nominal expressions encapsulate far more complex structures. Inasmuch as the noun-phrase ‘outer pervasion’ is concerned it embodies in the context of ‘ascertain...’, ‘establish ...’, ‘guarantee ...’ etc. a sentential phrase roughly equivalent to ‘(that) the *hetu* is invariably connected with the *sādhya* in the domain outside the *pakṣa*’.<sup>7</sup> Only for this reason the difference between referential and non-referential readings becomes virulent. The task of unpacking content from nouns is not always a trivial affair. This in its turn is particularly vital for the exegesis of Sanskrit texts because of the abundance of nominal expressions they often exhibit. A crucial facet of the matter is not only the fact that some exegetically relevant import cannot be always immediately read off from the lexical and compositional features of nouns or noun-phrases—as in the case of ‘outer pervasion’ (*bahirvyāpti*) and many other terms—but also the circumstance that the identity of the syntactic-semantic category which a nominal expression

<sup>7</sup> It has been tacitly assumed above that the term ‘outer pervasion’ designates a relation defined for arbitrary entities, provided they belong to the same type of objects as those which Indian theoretical treatises denote by the expressions *sādhana*, *sādhanadharmā* or *hetu* and terms, such as *sādhya* or *sādhya*. This means that connecting items which function as *probans* and *probandum* in some particular context of inference is *not* an ‘inbuilt’ semantic ingredient of the term ‘outer pervasion’ or the Sanskrit term which it should translate. Precisely this assumption could be disputed. As a matter of fact, one must reckon with the possibility that ‘external pervasion’—and also ‘pervasion’ (*vyāpti*)—exhibits ‘semantic porosity’ in the sense that the objective content of the term cannot be determined in the respect which is pertinent here, i.e. its usage is compatible both with the assumption that restriction to a *probans* and a *probandum* as *relata* constitutes a semantic ingredient of the expression and with the supposition that this is not the case. Hence it could be worthwhile to investigate whether or not in other texts apart from the *Vyomavati* the Sanskrit equivalent of ‘outer pervasion’ is semantically determinate with respect to the domain and range of admissible *relata*. For the evaluation of the statement appearing in VSS, however, this issue possesses only limited importance. If it turned out that *bahirvyāpti* or any other term representing the idea of ‘external pervasion’ is, according to certain textual sources, semantically determinate in the respect that only entities functioning as *probans* and as *probandum* in some particular context of inference constitute admissible *relata*, it follows merely that the above adopted usage of this particular word in connection with the proposition correlated with the specific function assigned to the *udāharaṇa* should be better avoided. But the correlation itself would by no means be invalidated under this circumstance. One would still be entitled to say that, considered against the background of the *Vyomavati*, the third member of the syllogism possesses the specific function to establish that in the realm, apart from the substratum of inference, *probans* and *probandum* are invariably connected. BK’s zeal to consider textual sources against their ‘historical background’, in particular against the background of Jaina sources, such as the works of the ‘eminent Jain logicians’ Pārthakesarin or Siddhasena Divākara, could in this manner be connected with a reasonable purpose, namely with the aim of assessing by means of a comparative terminological study whether ‘external pervasion’ or other related notions always exhibit semantic porosity of the above described sort. It should be plain, nevertheless, that the objective which could justify reference to other textual sources fundamentally differs from the one that matters in VSS. The considered concession does not render legitimate the contention that one needs to chat about historical background at all costs regardless of some specific purpose.



encapsulates is generally concealed.<sup>8</sup> Nevertheless, it is not unusual that both the identity of the syntactic-semantic type and the immanent content which a nominal expression encapsulates can be derived from established ways of usage and could be even manifested in the lexicon of a language. The crux is, however, that even if matters pertaining to the actual import of individual sentence-constituents and to grammatical structure are (supposed to be) settled other relevant interpretation-related issues, including those concerning the logical form of an exegetically relevant content, can remain unresolved.

Even in non-technical discourse this is a common phenomenon. If somebody assertively says or writes, for example:

- (1) Odysseus was acknowledged by his wife Penelope only after killing her suitors.<sup>9</sup>

one can expect that competent interpreters will ‘automatically’ understand the statement as embodying a claim that can be paraphrased as follows:

- (1<sup>+</sup>) In Greek mythology it is told that Odysseus was acknowledged by his wife Penelope only after killing her suitors.

or

- (1<sup>++</sup>) According to Greek mythology a person called ‘Odysseus’ was acknowledged by his wife, who was (according to Greek mythology) called ‘Penelope’, only after killing her suitors.

It is apparent that no ‘grammatical rules’ that could be found in textbooks of the English language command or motivate an interpretation of (1) in the sense of (1<sup>+</sup>) or (1<sup>++</sup>). Not even anything comparable to the exegetic guidelines which the classification of Sanskrit nominal compounds into the varieties of *Bahuvrīhi*, *Tapuruṣa* etc. provides can be identified in the present case. What happens is that interpreters confronted with an utterance or inscription of (1) ‘construe’ some exegetically relevant content in accordance with the maxim that it is possible to attribute truth to the pertinent content. This must not mean that constructions of that sort are purely arbitrary. They surely are not. Typically there is proximity between a literal meaning and a

<sup>8</sup> The term *śūnyatā* (‘emptiness’) provides a most prominent example in this regard. Terms of the structure *X-tā* roughly corresponding to ‘X-ness’ often denote possible qualifications of particulars. It appears, however, that any such understanding of *śūnyatā* completely blocks the way of associating a consistent theoretical stance with the teaching of Madhyamaka. The problem evaporates only if one correlates the crucial expression with the nominalization of a sentence that can be expressed by ‘(the fact) that [on the level of final analysis] nothing (which is a concrete particular) exists’. Theoretically at least a conception of emptiness thus conceived is compatible with a theoretical outlook that assigns objects as semantic values to ‘that’-sentences. The potential scope of denials in Madhyamaka does not transcend the realm of particulars. As far as one can see, the question of the possible existence of abstract objects was just not an issue in Madhyamaka-philosophy.

<sup>9</sup> This is an example adapted from *Collins English Dictionary* 1991 (third edition), pp. 1082–1083.

derived import<sup>10</sup> such that consideration of established conventions or customs comes into play. One such custom is that in contexts of literary criticism expressions of the form

NN  $\Phi$

where in the place of ‘NN’ a designation of some protagonist (or other figure) of a narration occurs and ‘ $\Phi$ ’ replaces some or the other predicative expression, such as ‘smokes a pipe’, ‘never committed a crime’ etc.—statements are conveyed that are represented by sentences of the form

According to the narrative N somebody who is called “NN”  $\Phi$ .

However, just as in works of literary fiction proper names may or may not occur as genuinely referring expressions there is no strict rule to the effect that in the context of literary criticism names always occur in the above described manner.<sup>11</sup> The relevant import can only be derived on the basis of more specific considerations.<sup>12</sup> Anyhow, ‘maximizing truth’ is by no means the only or the most elementary maxim for the identification of exegetically relevant content. Maximizing reasonability relative to beliefs and intentions of the producer of an utterance or inscription is a more comprehensive principle. If a Western Sanskritist utters the sentence

(2) Rama defeated the demon Ravana.

it would be most reasonable to understand him as intending to say that according to the Indian epical tradition a person called ‘Rama’ defeated a demon called ‘Ravana’ because, given *his* presuppositions, it would be unreasonable to assert that some demon was once defeated by a historical person to which he refers by the designation ‘Rama’. It should be pretty obvious that the state of affairs would essentially differ if (2)—or a synonymous sentence of some other language—had been produced by some Hindu

<sup>10</sup> Proximity between literal meaning and other varieties of conveyed import holds equally good in cases which could be considered as ordinary specimens of conversational implicature (in the common sense of the term). One can presume, for example, that implicatures induced by ‘war is war’, ‘money is money’, ‘wine is wine’ etc. will pertain to the topics of war, money, wine etc. respectively.

<sup>11</sup> In anecdotes designations of protagonists usually denote existing persons and it is a well known fact that names of places occurring in fictional discourse are often meant to refer to exactly the same places as in ordinary statements.

<sup>12</sup> It might be appropriate to emphasize that the account delineated above does *not* entail that sentences such as (1) express propositions of different logical forms (according to circumstances). Such a derivation can be effectively blocked by referring to the distinction between what some sentence (-token) says or expresses, on the one hand, and that which the producer of a sentence says, expresses or conveys by using a sentence on the other hand. Nevertheless, it is far from certain that an appeal to that presumably important distinction settles all pertinent issues. It is not our intention to rule out the theoretical possibility to consider *both* the literal import of (1) and that of (1<sup>+</sup>) or (1<sup>++</sup>) as two (or more) different contents which a producer of (1) can express or convey. If one adopts this stance then variations induced by differences of context need not pertain to alterations of content at all but affect rather the issue as to which content is (the) exegetically (most) relevant (one) in a particular case.

who firmly believes that everything related in the Rama stories corresponds to actual facts.

The preceding considerations enable us to present a more elaborate account of the failure that affects BK's previously discussed exposition: Since grammatical facts (encompassing both lexical and syntactic matters) do not strictly determine the logical form of exegetically relevant contents the dimension of the use of linguistic items and principles of using language attains importance for interpretation. Among those the principle to employ linguistic expressions in a way that enables an addressee to (re-)construct some relevant content under the premise that the producer of an utterance or inscription intended communicative goals that are reasonable against the backdrop of his beliefs and other intentions plays a vital role. The crux is that the perspective under which communicative goals attain higher or lower degree of reasonability is variable in principle and precisely such variation of perspective constitutes a difference between Vyomaśiva's remarks concerning the establishment of an 'outer pervasion' and the one that is operative in VSS. It is true that correct identification of exegetically relevant content is often achievable by means which do not involve explicit consideration of principles of language use. But the lesson one can learn from BK's failure is that the confidence that mere intuition might be always a reliable guiding line in those matters is pure illusion.<sup>13</sup>

<sup>13</sup> Abstract forms of criticism based on disregard of argumentative relevance is a typical correlate of lack of reflection in matters of the identification of exegetically relevant content. On p. 383 BK states that 'another type of concurrent involvement and negligence of historical development' is exhibited by VSS because of a juxtaposition of the *Nyāyabhāṣya* and the *Prāśastapādabhāṣya*, 'without considering that Prāśastapāda analysed *pañcāvayava* by help of a version of the *trairūpya*-doctrine, whereas Pakṣilasvāmin did not'. It remains unclear what BK exactly means by the assertion that Prāśastapāda analysed *pañcāvayava* by help of a version of the *trairūpya*-doctrine. Prāśastapāda, after stating that the second member of the syllogism, termed *apadeśa* in his text, consists in the utterance of the indicator (*līnga*), immediately adds the remark that *apadeśa* is the utterance of an indicator which a) occurs together with the substratum of inference, b) is known (to occur) in everything belonging to the same class as the substratum of inference with respect to its correlating universal and c) is without exception non-existent in its complement in every instance, i.e. is not instantiated anywhere in the realm of entities lacking the *probandum*. This remark indeed embodies a reference to a variant of *trairūpya*. It involves a specification of conditions which an acceptable or valid indicator must satisfy. Since the subsequent context makes plain that this explication provides a guiding line for the identification as well as classification of fallacious indicators one could be even entitled to say that Prāśastapāda analyses fallacious indicators by help of a version of the *trairūpya*-doctrine. It remains mysterious, nevertheless, why a version of *trairūpya* must have been employed in the text for analysing *pañcāvayava*, i.e. the syllogism consisting of five members. But even if this contention were admitted for the sake of argument one needs to pose the following critical question: Why is it imperative in the section of pp. 31 ff of VSS, where the identification of the content of the five members as well as relations between them are at stake, to explicitly state the (pretty obvious) fact that Prāśastapāda mentions a version of *trairūpya* whereas the author of the *Nyāyabhāṣya* does not? Does BK intend to contend that merely because a truism belongs to the category of a historical truism it must be proclaimed whenever an opportunity of doing this arises? (A totally different matter is the question whether, for purely systematic reasons, the development of the doctrine of *trairūpya* might have created a situation in which, given specific theoretical premises at least, the teaching of the *pañcāvayava* or the explicit reference to particular members of the syllogism became spurious. But I find it extremely difficult to discern an intelligible rationale in BK's insinuation that *if* such a situation should have originated *then* textual sources must exist which explicitly 'manifest the *trairūpya*-doctrine in one or more members of *pañcāvayava*'.)

It should be pretty obvious that those results possess potential significance for the exegesis of textual sources of the past. As far as one can see, in many, presumably even the majority of academic institutions, where scholars are trained to interpret texts written in Sanskrit, Pali or other ancient languages on the basis of traditional descriptive grammars of the concerned languages, a practice prevails that could furnish an adequate theoretical apparatus for exegetical work only if the affirmations advocated in the preceding paragraphs were false. But it appears that they are not unfounded. The importance of the problem is increased by the circumstance that the range of the phenomenon of divergences between linguistic structure and logical form of exegetical relevant content by far extends that of the above considered kinds of examples. Conditional constructions, expressions of the form 'If P then Q' are sometimes used to convey not only in English, but also in a number of other languages to which presumably Sanskrit belongs too, contents exhibiting the propositional structure of 'If and only if P then Q'. Those who neglect such significant divergences are bound to misrepresent important facts. Even if it should be erroneous to believe in the existence of 'pragmatic grammars' for individual languages whose rules are akin to those of conventional linguistic grammars one must not accept that exegetical aspects that cannot be dealt with in the framework of traditional school grammar are left to the verdict of subjective feelings and impressions. For the very fact that communication with sentences, such as (1) and (2), is usually successful indicates that even those facets of interpretation or textual exegesis are guided by principles.

### III

The preceding discussions can evoke the impression that we subscribe to the view that interpretation must be committed to the identification of content that has been intended to be communicated by the producer of an utterance or inscription. As a matter of fact, this is not the case.

First of all, the contentions made in the preceding chapter do not imply that textual exegesis can have no other purpose than correctly identifying some intended import. They merely involve a commitment to the tenet that generally propositions which a producer of a linguistic item intends to impart belong to the range of exegetically relevant contents. It would be utmost unreasonable to rule out the possibility that even the act of identifying what a speaker or writer intends to say can be subordinate to a different aim. A mathematician or a historian of mathematics who tries to understand a mathematical text belonging to the previous tradition of mathematical research might legitimately pursue the goal of ascertaining whether some proof of a theorem contains elements which are suited for the proof of different theorems. In this connection it should be immaterial whether or not the inventor of the original proof ever envisaged the demonstration of other theorems. As long as no compelling arguments are offered precluding this

possibility for other theoretical fields, such as philosophy, no difference in this regard must be assumed. But even the notion of interpretation itself does not contain compliance with intentions as an inseparable ingredient. A literary critic might describe depicted courses of events or characteristics of protagonists in terms which nowhere appear in some pertinent literary work itself. The contention that the interpretation of a musical composition needs reflect a manner in which the composer envisaged his work to be played is at least highly debatable. On the other hand it is plain that concessions of this sort do not render interpretation purely arbitrary. Sanctioning performances of 'The Art of Fugue' in an instrumentation which might not have been envisaged or intended by the composer of the work is compatible with the acknowledgment of highest standards of rigour as far as faithfulness to the score and to what could be called the 'objective musical content' of the work is concerned. Again one would need a special argument precluding the possibility that in the domain of works on theoretical matters, such as philosophy, the idea of 'Werktreue' (faithfulness to the original) might encompass different dimensions. Since I cannot recognize such an argument I do not advocate any restrictive stance in matters of interpretation and exegesis of philosophical sources in particular.

What matters is, however, that even if one restricts the focus of attention to varieties of exegesis which eliminate as irrelevant accounts contradicting intentions of a producer of linguistic data room for non-equivalent alternatives remains. In this connection it is of vital importance that inscrutability of intentions is by no means the only relevant factor, although matters of inscrutability are highly virulent for the interpretation of documents of the remote past. Theoretically far more interesting are cases where impossibility to determine issues to a higher degree are not due to contingent lack of information on the part of an interpreter. Such situations can arise even in most ordinary linguistic interaction due to the circumstance that utterances and connected communicative goals are based on blends of considerations and intentions. It is easy to see that the sentence

(3) These two books cost too much.

possesses at least two different readings depending on whether the predicate of the sentence relates to a group or to individual items. The clear difference between 'group-readings' and 'individual-readings' does, however, not guarantee that an objective basis exists to single out one or the other of the alternatives as the intended import. (3) can be uttered by a mother to her child on the basis of different simultaneous considerations, as for example (a) the consideration that the price of the books taken together exceeds the amount the mother is willing to spend on that particular occasion and (b) the consideration that the price of each of the pertinent books is higher than their actual value. Yet this circumstance does not necessarily render the difference of readings irrelevant. Hence if the child reacts by asking the question:

(4) But can you buy me at least one of the books?

this need not betray a deficiency of understanding. The reason is that just because two different varieties of excess of cost are involved—corresponding to two different interpretations of ‘cost too much’—the consequence deriving from the proposition expressed according to the group-reading is not applicable to the proposition expressed in accordance with the individual-reading. Hence not revision but sophistication of the intentions and attitudes of the mother is presumably a communicative goal associated with the child’s utterance of (4). For adopting for one reason or the other the willingness to pay more for a product than one thinks it is worth does not strictly militate against an original intention not to spend more on an occasion than a particular amount. The fact that some pertinent alternative contradicts underlying intentions—as in the example discussed at the beginning of the preceding chapter—is therefore not the only reason why readings not specifically envisaged by producers of utterances or inscriptions can attain relevance.

If, as asserted before, considerations as to what is reasonable for a speaker to say on a particular occasion given certain data yield pertinent criteria for the determination of exegetically relevant content, then the circumstance is important that among non-equivalent alternatives more than one option can satisfy the condition. Moreover, it needs to be acknowledged that the relevant notion of being reasonable allows for differences of degree. Being reasonable is not a matter of ‘yes’ or ‘no’. In principle any interpretation ascribing to an utterance a content that enables one to assess the linguistic behaviour of its producer as rational can be confronted with alternatives that entail the same or higher degrees of reasonability. Hence the exegesis of a theoretical treatise is never finally vindicated by its entailment of theoretical reasonability alone. Those facts possess consequences with respect to questions of translation. But for the time being we want to postpone this issue and revert to it later.

John A. Taber’s (JT) review of the book *Studies on the Doctrine of Trairūpya*<sup>14</sup> is not only free from sweeping demands to consider doctrines and theorems against the backdrop of their historical development but it betrays also signs of an (at least implicit) acknowledgment of the tenet that considerations pertaining to theoretical reasonability play an important role for the exegesis of Indian philosophical texts. Although it could be argued that the fact that JT’s article raises rather subtle issues entails that it is not very representative for Indological studies, the importance of some questions it poses justifies a detailed critical discussion in the present context. At the end of his paper JT pronounces two criticisms which are worth considering. The first criticism consists in the denial of the supposition that (pertinent passages of) the *Praśastapādabhāṣya* dictate an “epistemic” interpretation of *trairūpya* that is distinct from a “realistic” interpretation. As a substantiation of his contention JT writes the following (p. 699):

It seems that in saying *yad anumeyenārthena deśaviśeṣe*, etc., *Praśastapāda* could simply mean that the *hetu* must satisfy the realistic conditions in

<sup>14</sup> Taber (1995); Oetke (1994b).

order to be valid, but that one must also, of course, *know* that it does in order to employ it in an inference. In other words, in order to draw an inference one must know that the middle term is valid by the criteria of *trairūpya*, but one's knowing that it is located in the *pakṣa*, etc., is not a condition of its *being* valid. Such a distinction would seem to be a natural one for any logician to make. Thus, the characterization of epistemic versions of the three conditions of *trairūpya* as conditions of the validity of the middle term does not seem necessarily called for, though it is indeed suggested by the wording of the text.

In some regard one can consider JT's suggestion articulated in the quoted passage not only as reasonable but even as fruitful. The proposal is reasonable in as much as an essential theoretical ingredient it possesses appears objectively justified against the background of the doctrines expounded in the *Praśastapādabhāṣya* as well as in a number of other texts. The satisfaction of the *trairūpya* conditions in their "realistic version", i.e. in a form which does not entail any reference to the knowledge or any other epistemic state of an inferring subject or a participant in a debate, can indeed furnish a basis for explicating a significant concept of validity. It is precisely this circumstance which reveals most relevant facts about the pertinent teachings and renders it worthwhile to explore the implications it entails. On the other hand, however, there are three reasons why this in itself cannot validate the correctness of the suggested interpretation regarding *trairūpya*. First it holds true in principle that the circumstance that for a certain speaker or writer it would be very reasonable to say something in a particular context given his own convictions and general communicative goals is only an important *criterion* for controlling an interpretation but can never yield either necessary or sufficient or necessary and sufficient conditions of its correctness. Second, from the fact that a certain teaching entails a proposition or harmonizes extremely well with the possession of a certain feature it does not follow that the pertinent proposition is ever asserted or the feature explicitly ascribed by somebody advocating the concerned teaching. More specifically, from the fact, given that it is a fact, that in view of the doctrine propounded in the *Praśastapādabhāṣya* it would be reasonable for the writer of the text to explicate a 'realistic version' of *trairūpya* and to stipulate that its satisfaction is a necessary condition of acceptability or validity of inferences it cannot be safely concluded that such a statement is ever made in any work of the author. A conclusion to the effect that in some particular textual passage the writer intended to define such version of *trairūpya* and stipulate a corresponding norm of validity is even less certain. This conclusion would be all the more doubtful if alternative equally legitimate versions of validity or acceptability exist. Third, from the proposition that the first ingredient of JT's proposal, viz. the contention that a suitable concept of validity for inferences is derivable from non-epistemic versions of *trairūpya*, is true it does not follow that the second ingredient, viz. the proposition that one must know that a *probans* satisfies the conditions of *trairūpya* in order to employ it in an inference, is equally correct. Therefore

one cannot suppose without a further argument that Praśastapāda would have made an objectively adequate claim if he had formulated exactly the same proposal as JT. All the more it cannot be taken for granted that JT's thought is expressed in some pertinent textual passage of the *Praśastapādabhāṣya*. The combination of these facts confronts us with a complex task of investigation. Thus we need to examine: (1) whether it is true that a realistic version of *trairūpya* provides a suitable concept of validity for inferences, (2) what follows with respect to the character of theories of *anumāna*-inferences from the supposition that (1) is correct, (3) whether in Praśastapāda's work—or elsewhere—such version of *trairūpya* and concept of validity is propagated and (4) whether (a) knowledge of the satisfaction of all conditions of *trairūpya* is a necessary condition for employing a *probans* in an inference and (b) whether in Praśastapāda's text this proposition has been asserted or implied. We will first consider (1) and (2) and proceed to the other questions later.

#### IV

The basic idea underlying JT's suggestion that the satisfaction of the *trairūpya* conditions in their "realistic version" could function as a basis for explicating a pertinent concept of validity can be even generalized and its point explicated as follows:

An inferential derivation from a proposition 'P' to a proposition 'Q' is valid (only) if there is a set of true propositions 'X', such that the union of 'P' with all the propositions which are members of 'X' necessitates 'Q'

or alternatively:

The conjunction formed by the conjunction of 'P' with the conjunction of all the propositions which are members of 'X' necessitates 'Q'.

This leaves still unspecified what exactly the pertinent relation of necessitating is. On the other hand it should be clear that interpreting 'necessitate' as '(logically) entail' represents at least one permissible way of implementing the principle.

It is easy to see that according to the approach under consideration the propositions which are entailed by the *trairūpya*-conditions and which need to be true whenever the *trairūpya*-conditions are satisfied, should be the members of the pertinent set 'X'. Now, against the background of the fact that Indian theories of inference relate to specimens in which propositions of the form 'Sp' are derived from propositions of the form 'Hp', where 'p', 'H' and 'S' are reminiscent of the technical terms *pakṣa*, *hetu* and *sādhya*, it is clear that 'Hp' correlating with the first *trairūpya*-condition according to a non-epistemic version, must be considered as a member of the set 'X'. On the other hand, the identification of the remaining members of the pertinent set is crucially affected by the uncertainties regarding the interpretation of the conditions two and three of *trairūpya*, which exists even if the scope of



relevant possibilities is restricted to non-epistemic versions. Nevertheless, one can distinguish two main categories: According to the first alternative conditions two and three together entail that in the entire universe with the exception of the substratum of inference, the *pakṣa*, everything which instantiates the *probans* also instantiates the *probandum*, i.e. everything which is H is also S, where ‘H’ and ‘S’ can be read as ‘something that possesses the *hetu*-property’ and ‘something that possesses the *sādhya*-property’ respectively. This would hold true, for example, if condition two of *trairūpya* were taken as equivalent to ‘there is some x, such that  $x \neq p$  and x is H and x is S’ and as ‘for all x, such that  $x \neq p$ , if not Sx, then not Hx’. According to the second alternative the conditions two and three would entail that in the entire universe (of discourse), including the substratum of inference, everything instantiating the *probans* instantiates the *probandum*.

Let us briefly contemplate what would follow if the second alternative were correct. It is pretty evident that under these premises a relation of logical entailment holds good between the members of ‘X’ and the conclusion. By the same token the derivational relation between the inferred proposition ‘Q’ from the proposition ‘P’, which constitutes that from which ‘Q’ is inferred, would exhibit the following property: The extension of ‘P’ formed by adding to ‘P’ those members of ‘X’ which correlate with the second and third condition of *trairūpya* entail the inferred proposition ‘Q’. In this connection it is remarkable that a relation of (logical) entailment could be equally obtained if one adopted the first alternative described in the preceding paragraph and included as an additional element of the pertinent set ‘X’ a proposition to the effect that the substratum of inference does not represent a solitary exception to an otherwise universal regularity. By connecting those tenets with the above mentioned proposal suggested by JT a result emerges which is noteworthy. Using ‘P’ and ‘Q’ as before, ‘T2’ and ‘T3’ as symbols representing the propositional correlates of the second and third condition of *trairūpya* and ‘R’ as a symbol for the proposition corresponding to the supposition that the *pakṣa* does not constitute a solitary exception,<sup>15</sup> one can validate the following tenets:

$$(Ia) \quad P, T2, T3 \vdash Q = T1, T2, T3 \vdash Q$$

$$(Ib) \quad P, T2, T3, R \vdash Q = T1, T2, T3, R \vdash Q^{16}$$

<sup>15</sup> The proposition ‘If everything different from the *pakṣa* exhibits the *probandum* if it exhibits the *probans*, then the *pakṣa* exhibits the *probandum* if it exhibits the *probans*’ would spell out this idea. The circumstance that its precise explication is relatively complex does not invalidate the fact that the intuitive concept of compliance with an otherwise non-exceptional regularity is easy to grasp.

<sup>16</sup> One could equally describe the pertinent state of affairs thus:

$$(Ia') \quad P \& (T2 \& T3) \vdash Q = T1 \& (T2 \& T3) \vdash Q$$

$$(Ib') \quad P \& ((T2 \& T3) \& R) \vdash Q = T1 \& ((T2 \& T3) \& R) \vdash Q$$

In this case the relationship of derivability would hold true between a single conjunctive proposition and a consequence instead of a multitude or a set of propositions and a consequence. For the subsequent discussion the two alternative accounts are pertinent in exactly the same manner.

This result is highly significant because it intimates a connection between JT's above mentioned suggestion and his contention, propounded elsewhere, that an ideal or norm of monotonic or deductively valid reasoning was implicit in 'Indian Logic'.<sup>17</sup> The relationship could be spelled out as follows:

If a reason is valid with respect to some *probandum*, or more exactly, if a proposition 'P' corresponding to the attribution of a *probans* to a substratum of inference, a *pakṣa*, is a valid basis for the derivation of some proposition Q, corresponding to the attribution of a *probandum* to the (same) *pakṣa*, then a set of true propositions must exist, such that the propositions belonging to that set—or alternatively the conjunction formed by joining the propositions of that set by the conjunctive operator ('&')—logically entail the pertinent conclusion ('Q'). Now, logical entailment, represented by ' $\vdash$ ' above, is a relation that exhibits apart from the properties 'Reflexivity' and 'Cut'<sup>18</sup> the quality of 'Dilution' which consists in the property that if some proposition is logically entailed by some set of propositions, then the same proposition is equally entailed by any set consisting in the set-theoretic union of the original set and any arbitrary set.<sup>19</sup> In more informal terms: If some proposition or plurality of propositions logically entails some proposition, then the relation of logical entailment remains preserved if arbitrary propositions are added to the set of premises. Since a relation exhibiting dilution is called 'monotonic', validity is connected with monotonicity in the following manner: If a reason is valid with respect to some *probandum* then there must exist a set of true propositions which are connected with the consequence by a relation exhibiting monotonicity.

But is it really justified to draw from this the conclusion that validity of a reason is monotonic, if JT's above depicted suggestion should be true? First it needs to be emphasized that a sweeping rejection of that contention on account of the allegation that (presumably) neither Praśastapāda nor other thinkers belonging to the same tradition of thought had the idea of monotonicity in their mind at some time is completely illegitimate. If that objection were raised against JT, he might retort in the following way: If grammatical rules of a language would lose relevance and validity merely because speakers of that language are not aware of those rules and do not have the concepts in their mind which a grammarian uses to formulate them, then Sanskrit philology as a whole must be a fairly dubious subject. Avoidance of sweeping objections relating to what is in the mind of people is therefore not

<sup>17</sup> See for example Taber (2004, p. 144): 'Rather, from the very beginning something like monotonic, that is, deductively valid, reasoning was the ideal or norm, but the conception of that ideal was continually refined ....'

<sup>18</sup> That is (a) ' $p \vdash p$ '—informally readable as: 'any proposition 'p' logically entails itself' (reflexivity) and (b) 'If  $X \vdash q$ , for every q in Y, and  $Y \vdash p$  then  $X \vdash p$ '—informally readable as: 'If p is logically entailed by some set of propositions Y, such that every member of that set (Y) is logically entailed by some set of propositions X, then p is also logically entailed by the latter (X)' (cut).

<sup>19</sup> Technically, this is expressed as follows: 'If  $X \vdash p$  then  $X, Y \vdash p$ '.

recommended by considerations of scientific ethics alone. Moreover, JT could provide positive support for his contention by alleging that logical entailment between conditions of validity and the conclusion constitutes an implicit criterion and guiding line for the selection of those criteria and for the specification of the conditions of *trairūpya* in particular.

Nevertheless, this line of reasoning is unconvincing. First, the claim of a link between validity and logical entailment is either based on a questionable interpretation of the *trairūpya* conditions themselves or on the hypothesis that validity encompasses the requirement of the non-existence of solitary exceptions to a rule<sup>20</sup> as an additional ingredient. Hence the contention that validity presupposes an entailment between true propositions and a pertinent conclusion cannot be taken for granted. But we can allow ourselves the attribution of minor importance to this fact. Even if it were granted for the sake of argument that there is an entailment between the conditions of *trairūpya* and the conclusion a claim of a monotonic conception of validity is not vindicated.<sup>21</sup>

Let us suppose that entailment was indeed an implicit criterion for the determination of *trairūpya* either for Praśastapāda or other writers. Then the fact needs to be acknowledged that ‘dilution’ or ‘monotonicity’ is only a property exhibited (among others) by logical entailment, but is not logical entailment itself. Hence one cannot simply conclude from the assumption that Praśastapāda or some other author employed entailment as a guiding line in some respect that some particular property of entailment, specifically the property of being monotonic, served as a criterion or guiding principle. Even on the hypothesis that some intention is accompanied by an explicit awareness of possessing that intention on the part of the subject having it one could not validly draw an inference from (a) ‘NN intended that X should be such that X entails Q’ to b) ‘NN intended that X should be such that it is related to Q by a relation which complies with dilution’, if the embedded relative clause of (b) is understood in accordance with a non-transparent reading. If, on the other hand, the monotonicity-tenet were based on an alleged relationship between (a) and (b) in transparent readings, whereas the truth of the b) in its non-transparent interpretation were regarded as false, then there is even a positive

<sup>20</sup> In this context it might be worthwhile to note that the phenomenon of solitary exceptions to rules is quite common in natural languages as well as in linguistic descriptions of natural languages.

<sup>21</sup> This is here, as well as in the subsequent paragraphs, conceded merely for the sake of argument. In fact, Praśastapāda’s remarks in connection with the contention of an opponent asserting that there is a special variety of ‘doubtful’ (*sandigdha*) fallacious middle term suggests that he shares the opponent’s presupposition that conditions of *trairūpya* do not entail the conclusion. The pertinent case concerns a combination of two opposing reasons both fulfilling the characteristics of *trairūpya* (*yathoktalakṣaṇa*), such as possessing movement and being intangible which are properties of the psychic organ (*manas*) and can be used to derive either that the psychic organ possesses shape or does not possess shape. The concession that non-epistemic conditions of *trairūpya* might (logically) entail the conclusion is needed, however, because it cannot be ruled out that some authors of some texts adopted this view. Moreover, only by taking this supposition as a possibility one implicitly accounts for the conceivable contention that the conditions of *trairūpya* in conjunction with additional requirements of validity entail the conclusion.

reason to reject the premise that a relation of entailment between conditions of *trairūpya* and conclusion constituted an implicit criterion or guiding line for Praśastapāda. If one attributed to Praśastapāda (or anyone else) a view to the effect that the conditions of *trairūpya* should be related to the conclusion by a relation which *de facto* exhibits dilution or monotonicity then one would be committed to acknowledge that the possessor of that view might be disposed to admit that the same relation holds true even with respect to any union of the conditions of *trairūpya* with any arbitrary additional proposition and accordingly also regarding a conjunction of the *trairūpya*-conditions with the negation of the conclusion. Now one can only ask: Is that plausible? To be sure, a contemplation of what somebody would be disposed to answer to a question which has never been put to him is in some respect futile. Nonetheless, the following relative assessment is pretty reasonable: If Praśastapāda or some other representative of the Indian tradition of thought would have been confronted with the question as to whether a piece of reasoning is acceptable which, among others, contains the negation of the conclusion as a premise an assent is much less probable than denial or bewilderment. A similar result is to be expected regarding pieces of reasoning containing a contradiction as a premise as well as the hypothesis of an inference in which the falsity of the conclusion is known beforehand. Therefore the thesis that the author of the *Praśastapādabhāṣya* or his contemporaries used logical entailment as a criterion or guiding line for the specification of *trairūpya* can at best be taken as a completely external statement. One would need to say that, provided JT's initial suggestion were true, the conditions of *trairūpya* are related to the conclusion of an inference in a manner which *we* can describe as logical entailment. But this is a matter of sheer coincidence. A reformulation of the pertinent thesis by saying that logical entailment was a criterion for certain conditions of validity of reasons or inferences can never possess a more substantial content. The reason is that with extremely high probability Praśastapāda as well as other thinkers belonging to the same tradition would reject consequences that inevitably follow from the supposition that conditions of *trairūpya* and a pertinent conclusion are correlated by any relation possessing the property of dilution or monotonicity. There is far more legitimacy in claiming that Indian Logic was always non-monotonic—and that this holds good for later philosophers like Dharmakīrti too—than in saying that it was ever monotonic.

The results obtained so far still permit to associate doctrines like that propounded in the *Praśastapādabhāṣya* with monotonicity in a very etiolated sense, which should be explicated as follows: Given certain permissible assumptions concerning the content of *trairūpya*, the validity of reasons and inferences requires the truth of propositions which *can* be connected with a pertinent conclusion by the relation of logical entailment and therewith a relation which *de facto* complies with dilution and is monotonic. The crux persists, however, that this does not specify a monotonic relation between an entity that functions according to the concerned doctrines as reason or basis of inference on the one hand and a corresponding conclusion on the other. As far

as one can see, before Dharmakīrti it did not even occur that an example is made a topic of discussion and analysis where a proposition corresponding to the ascription of a *probans* to a substratum of inference and a proposition corresponding to the ascription of a *probandum* to the same substratum is related in a manner which we can specify as a relation of logical or semantic entailment. This strictly precludes the supposition that any relation of validity of the form 'x is a valid reason for y' holding good between propositions correlating with a *probans* and a *probandum* respectively might be restricted to cases where the pertinent relata are connected by logical entailment or even by some stronger link implying logical entailment. That the considered relation of validity must not be equivalent to any monotonic relation of derivability can be easily seen. Let us assume, in accordance not only with Praśastapāda but even in accordance with the entire tradition to which he belongs, that an inference from the occurrence of smoke to the occurrence of fire in some place is a specimen of valid inference. Let us even suppose that the hypothesis that smoke never occurs without fire is *de facto* correct. Let 'P' and 'Q' stand for the premise and the conclusion of the pertinent inference and let 'X' be a symbol for the negation of the proposition that smoke never occurs without fire or alternatively as the negation of the conjunction of the propositions constituting the conditions of *trairūpya*. Now, 'P, ¬X' as well as 'P, ¬X, ¬Q', where '¬Q' represents the logical negation of the pertinent conclusion, are definitely consistent sets. Accordingly it is beyond any doubt that 'P, ¬X, (¬Q) ⊢ Q' does not hold true, whereas 'P, ¬X, ¬Q ⊢ ¬Q' does hold good. This shows with sufficient clarity that that which is commonly called 'Indian Logic' concerns probabilistic inferences and presumably concerns exclusively probabilistic inferences before Dharmakīrti. The situation is essentially different with respect to specimens which Dharmakīrti made a topic of discussion, inferences, such as 'p is a sugar maple. Therefore p is a tree'. The decisive point is that one can plausibly consider a fulfilment of some<sup>22</sup> conditions of *trairūpya* which logically entail the conclusion as being entailed by the very premise. Due to transitivity of logical entailment the conclusion is entailed by the premise. Hence, the addition of any proposition or set of propositions entailing the negation of *trairūpya* generates an inconsistent set, so that according to our (classical) concept of logical entailment, according to which any arbitrary proposition is entailed by an inconsistent set, the pertinent conclusion is entailed not only by the extended set consisting of the premise plus conditions of *trairūpya*, but equally by the extended set consisting of the premise in combination with a negation of *trairūpya* or any arbitrary proposition entailing a negation of *trairūpya*. It is for this reason that one could claim that Dharmakīrti was, among others, concerned with inferences based on entailment and accordingly some sort of deductive derivability. There is a basis for crediting Dharmakīrti with a concern about monotonic reasoning due

<sup>22</sup> The expression 'some' is employed because it is debatable whether the second *trairūpya*-condition, which stipulates the existence of a plurality of items belonging to the natural kind of a sugar maple, is implied by the premise.

to the circumstance that his doctrine attempted to encompass pieces of inference in which premise and conclusion are connected by a link which we *can* identify by (classical) logical entailment and hence by a relation that conforms with dilution and exhibits monotonicity. Precisely this basis is totally absent as far as doctrines before Dharmakīrti are concerned. It is this absence which constitutes an eminent problem for Dharmakīrti's own philosophy because of his attempt to integrate fundamentally different sorts of reasoning in a common theoretical framework.

The decisive difference lies in the subject matter which is accounted for in doctrines like that of Praśastapāda and partially in Dharmakīrti's theory. There is no legitimate basis for considering the doctrines of Praśastapāda or other authors before Dharmakīrti as theoretical accounts of deductive or monotonic reasoning because a treatment of conditions of *trairūpya* as parts of a set of premises from which a pertinent conclusion is derived relies on sheer hallucination. As far as one can see all texts unanimously depict the conditions of *trairūpya* as marks or characteristics of acceptable logical reasons, and they usually manifest this view in very clear and unambiguous terms. With the exception of certain specimens considered by Dharmakīrti, an enlargement of the set of premises by adding to the proposition corresponding to the *probans* the proposition(s) corresponding to *trairūpya* always involves a substantial restriction representing substantial additions of empirical information, and precisely this makes mandatory the tenet that the object of theoretical account are probabilistic empirical inferences.<sup>23</sup> Therefore the assumption that on the basis of a realistic interpretation the conditions of *trairūpya* constitute necessary or necessary and sufficient requirements for the validity of inferences is unsuited to vindicate the contention that Ancient Indian Logic was not concerned with probabilistic but with deductive reasoning. It is illegitimate to derive this tenet even if it were granted for the sake of argument that the conditions of *trairūpya* logically entail the conclusion of some pertinent inference or proof.

In the present connection it is, however, imperative to sharply distinguish between (a) the question of whether or not theories before Dharmakīrti gave accounts of probabilistic or non-probabilistic, of non-monotonic or non-monotonic reasoning and (b) the question of whether doctrines before Dharmakīrti propagated or necessitate a concept of inferability which shares with the classical concept of entailment or logical implication the crucial quality of dilution. Presumably a negation of the contention that some doctrine accounts for deductive reasoning does not necessitate a negative answer with respect to (b). On the one hand, it is beyond any doubt that neither before nor after Dharmakīrti the criteria which should separate acceptable from not acceptable inferences disqualify empirical probabilistic inferences such as the renowned derivation of the occurrence of fire from the occurrence of smoke. Hence there is no material coincidence between the link between premise and conclusion

<sup>23</sup> For this reason it is appropriate that an earlier paper published by me bears the title: 'Ancient Indian Logic as a Theory of Non-Monotonic Reasoning' rather than: 'Ancient Indian Logic as a Non-Monotonic Theory of Reasoning'.

with a relation exhibiting dilution, such as entailment or logical implication. On the other hand the idea of a relation existing between a plurality of premises or a set of two or more premises and a conclusion appears to be foreign to the Indian tradition as a whole, and even if this should not hold true then it must be definitely assumed with respect to Praśastapāda as well as other authors belonging to the same period that the possibility of deriving a conclusion from a multiplicity of premises has not been explicitly considered.<sup>24</sup> One might therefore be tempted to conclude that on this account the ascription of a monotonic relation of validity or valid inferability to those doctrines is spurious. By the same token a concept of inferability in those teachings could be classified as non-monotonic at best in the weak sense that it does not meet the requirements of classifying it as monotonic.

Nevertheless, such a refutation would be too rash. The defender of the thesis that doctrines like that of Praśastapāda contain a monotonic relation of valid inferability can retort that only he is able to provide a theoretically coherent and plausible account of theorems which are explicitly pronounced in textual sources and that attributing to a pertinent relation of inferability the property of dilution would be the only reasonable reaction on the part of Praśastapāda or other writers, if they were confronted with the problem of making a decision on that issue. But is hypothesising a monotonic relation of inferability the only reasonable solution? Is it reasonable at all?

Let us concede for the sake of argument JT's thesis that non-epistemic versions of *trairūpya* constitute a criterion of valid inferability. On this hypothesis it must be admitted that if the conditions of *trairūpya* are sufficient conditions of validity it is most reasonable to postulate *both* that from the set consisting of the premise and the propositions representing the conditions of *trairūpya* a pertinent conclusion can be validly inferred *and* that from every consistent extension of that set the same conclusion can be equally validly inferred. The first postulate is reasonable because if the satisfaction of the conditions of *trairūpya* justifies the valid derivation of the conclusion from the premise then a supposition to the effect that the premise is true and the conditions of *trairūpya* are satisfied should equally justify the contention that the conclusion is true. The second postulate is reasonable because, if the supposition that the premise and the propositions entailed by the satisfaction of the conditions of *trairūpya* are true should be sufficient to allow for a valid derivability of the conclusion, then it would be utterly queer to disclaim that the same conclusion can be validly

<sup>24</sup> This is not to say that such a possibility has never been implicitly anticipated. In commentaries of the *Praśastapādabhāṣya*, such as the *Nyāyakandālī* and the *Vyomavatī*, a derivation of somebody's (Caitra or Devadatta) staying outside the house on account of the fact or knowledge that he is living and does not stay within the house is mentioned in the context of a discussion of *arthāpatti*. The textual sources do not make plain, on the other hand, whether the basis of inference consists in a collection of propositions or facts or in a single proposition or fact representable by a single coordinated sentence. On the one hand there are formulations, as e.g. *jīvati devadatte gr̥he nāstīti* (*Vyomavatī* p. 590; ed. Gopināth Kavirāj/Dhūṇḍirāj Śāstrī, Varanasi, 1983) and on the other hand it is explained that the conclusion is licensed by the circumstance that it dissolves a conflict between the fact that the person is still living and the fact that he is not to be found in a (particular) house (see e.g. *Nyāyakandālī*, p. 535; ed. Śrīdurgādharaṅhā Śarma, Varanasi 1963).

derived by any consistent enlargement of the set of premises. For, if such an enlargement were not legitimate, why is it supposed that the original set constitutes a sufficient basis for a valid derivation? A fairly obvious crux is, however, that the argument hinges on the assumption that the conditions of *trairūpya* represent sufficient or necessary and sufficient criteria of valid inferability. It is therefore not applicable to all doctrinal variants because some textual sources contain indicators suggesting that the conditions of *trairūpya* are meant as representing only necessary conditions.

But let us grant that such a supposition is legitimate at least with respect to some teachings. This leads us to a more serious difficulty: What if the extension is *not* consistent? The notion of dilution implies that one and the same relation of derivability remains preserved for *all* extensions, that is, irrespective of whether the added propositions are true or false. Accordingly the claim of monotonicity regarding a pertinent concept of valid derivability is committed to assume that valid derivability holds good even between the conclusion and a set consisting of the original premise, the propositions representing *trairūpya* plus logical negations of any of the former propositions. First it must be emphasized that not even with respect to Dharmakīrti any evidence exists to the effect that he would have been disposed to agree to the suggestion that a conclusion can be validly inferred from, say the supposition that the premise is true and the conditions of *trairūpya* are satisfied and simultaneously the premise is not true and the conditions of *trairūpya* are not satisfied. For Praśastapāda and others there is even less evidence. On the contrary, it appears more probable that all those authors would have dismissed this possibility. For not disallowing this possibility would amount to a readiness to admit the ‘paradox of entailment’ and to acknowledge that an inconsistent set entails everything. But there cannot be the slightest doubt that if we ascribed to those thinkers a disposition to make such concessions because *we* could be willing to accept such tenets the reproach of imputing our views to foreign subjects would be fully justified. What could be contended is at best that assuming that inconsistent extensions preserve inferability is the only or at least the most reasonable option. But even this is not indubitable. Disclaiming the thesis that a logical contradiction entails every proposition is by no means unreasonable. It is not even certain that the idea of a relation of logical consequence involving a paradox of implication is always suitable. Absolutely nothing vindicates a claim to the effect that features exhibited by the doctrines of Praśastapāda, Dignāga and others command the acceptance of the tenet that the same relation of valid inferability which is supposed to hold good between, say, the occurrence of smoke and the occurrence of fire holds equally good between self contradictory propositions or inconsistent sets of propositions and other propositions, true or false.<sup>25</sup> As far as one can see, all relevant teachings would harmonize perfectly with the stance that from a contradiction nothing at all can be validly inferred or derived.

<sup>25</sup> There is hardly more support for the supposition that a relation of valid inferability should exist at least between contradictions and true conclusions.



In the final analysis a rebuttal of a monotonic character of inferability need not rely on the tenet that inconsistent extensions of sets of premises and *trairūpya*-conditions do not exhibit the same relation of inferability as their consistent counterparts. The decisive point is that even if this contention were suspended it would not be vindicated that an identical relation of valid derivability existing between a reason and a conclusion is equally exhibited between any set containing the original premise plus other propositions and the same conclusion. For the supposition that the conclusion of an Indian *anumāna* might be validly derivable from the premise corresponding to the *hetu* or *probans* and a (set of) proposition(s) corresponding to the conditions of *trairūpya* as well as from any extended set containing *all* the former propositions as elements implies merely that there are *some* extensions preserving valid inferability. What the advocate of monotonicity needs is, however, a proof that *every* extension containing the original premise as a member exhibits the same relation of inferability to the same conclusion (provided he does not want to confine himself to the insignificant claim that some relation of derivability existing between a premise together with propositions entailed by satisfaction of *trairūpya* might be preserved by extensions of the set of premises). This means that he would need to convince us that, if to the proposition that smoke exists on some mountain  $\mu$  the proposition that fire *never* occurs if smoke occurs were added as an additional premise, the conclusion that fire exists on  $\mu$  would validly follow because, according to Praśastapāda and others, existence of smoke on  $\mu$  is a valid reason for deriving existence of fire on  $\mu$ . That nothing like this is said or suggested in any text is surely no coincidence. This has to do with the above claimed fact that ancient Indian ‘logic’ attempts to provide an account of probabilistic inferences and that the idea of valid inference or derivation as a relation that is absolutely unaffected by contingent circumstances or the idea of something’s being necessarily true given that something else is true no matter how the actual world really is, does not play the central role in this connection. Before Dharmakīrti there is no attempt to single out conclusions of a premise which follow from it under all *conceivable* circumstances or examples of which one might say that in all ‘possible worlds’ in which the premise is true the conclusion is also true.

Even if it were supposed for the sake of argument that the conditions of *trairūpya* are to be understood in a manner according to which their satisfaction logically entails the conclusion, one can merely say that a conclusion ‘Q’ can be validly inferred from a premise ‘P’ if there is a set of true propositions ‘X’, such that ‘X’ in combination with ‘P’ entails ‘Q’. The decisive point is that the qualification ‘true’ cannot be omitted here. In fact, the Indian theoreticians should hardly have said that a conclusion ‘Q’ is validly inferable from ‘P’ if there is *some* set of propositions, such that ‘P’ in combination with the propositions belonging to that set entail ‘Q’. For this would be pretty worthless. Under those circumstances everything would be derivable from anything because to any ‘P’ one could add ‘Q’—or the set having ‘Q’ as its only element—so that ‘Q’ is entailed by the extension. For the same token it is equally futile to stipulate in addition that ‘P’ or ‘P’ as well as ‘Q’ must be true

because any proposition or any arbitrary true proposition could be validly inferred from any arbitrary true proposition. If, in contrast, the pertinent extension is subjected to the restriction that it consists only of propositions which are true, then the situation is completely different. Under those circumstances dilution and monotonicity must be sacrificed, but the gain is that if the additional premises are transformed to a set of conditions which pairs of premises and conclusions must satisfy they automatically impose substantial restrictions. Truth alone does surely not guarantee that adequate pairs are singled out. For, as pointed out before, a stipulation to the effect that the truth of a conclusion 'Q' is a necessary requirement for the validity of 'P' with respect to 'Q' is hardly satisfying because being told that it is acceptable that any arbitrary truth is inferred from any arbitrary truth is certainly not what one wants. But such a flaw would not be exhibited by the contention that a conclusion of the form 'Sp' is validly inferable from a premise 'Hp' only if ' $(\forall x)(Hx \rightarrow Sx)$ ', i.e. if all H's are S's, holds true.

To claim that some theory advocates a relation of derivability or inferability which holds good between any 'P' and 'Q' (if and) only if there is some set 'X' of true propositions that is logically independent of 'P', i.e. neither entailing 'P' nor entailed by 'P', and which in combination with 'P' entails 'Q' and to claim that a theory advocates a relation of derivability or inferability holding good between 'P' and 'Q' (if and) only if, for every set 'X' of (true or false) propositions the same relation of inferability holds good between a union of 'P' and 'X' on the one hand and 'Q' on the other, are completely different things. The same holds true if the former claim were additionally specified by the stipulation that the same relation of derivability that exists between 'P' and 'Q' must equally hold good between the union of 'P' and 'X' as well as any consistent extension of 'P' and 'X'. The fact that JT in his earlier paper 'Is Indian Logic Nonmonotonic' has not even attempted to show that and why the latter claim should be accepted if the former claim were correct renders the conclusion probable that he did not achieve full clarity in the matter.<sup>26</sup>

On the other hand, it has been asserted at the beginning of this paragraph that JT's suggestion to specify a notion of validity according to which satisfaction of the 'realistic' conditions of *trairūpya* should constitute a criterion of validity is not only reasonable but also fruitful. It should be plain that this statement was not based on the opinion that accepting such a concept of validity vindicates the tenet that 'Indian Logic is monotonic'. The significance of the proposal relies on a different circumstance.

First, it is quite obvious that if non-epistemic conditions of *trairūpya* are conditions of validity, validity is a matter of how things stand in the actual

<sup>26</sup> It appears that a failure to draw a firm distinction between the idea of being preserved under extension of premises on the one hand and of being preserved under extension of true propositions, information or knowledge on the other was influential. At any rate, one can observe a fluctuation of terminology and a tendency to merge 'premise', 'information' and 'knowledge' if e.g. on p. 146 it is said: '.... that is "sensitive to new information" or else "sensitive to the addition of new premises"', '.... will always remain a proof no matter what else we come to know about the world ....', '.... the "addition of new premises," that is, the addition of new information to what I already know ....' etc.

world. If, for contingent reasons, smoke would always annihilate fire, if smoke could never co-occur with fire, then the standard example of a valid inference would lose validity. This suggests an intimate connection between Indian theory of inference and methodology. That taking a sample of rice is a reliable method of testing whether the rice in some pot is cooked relies, among others, on the contingent fact that all parts within a (sufficiently small) vessel put on fire receive more or less the same amount of heat.

Second, the supposition that realistic conditions of *trairūpya* are a necessary condition of validity allows one to recognize that Indian theories of inference might have erected exceedingly demanding acceptability-standards. This is a reason why JT's paper 'Is Indian Logic Nonmonotonic?' contains the germ of an important insight, an insight which is unfortunately concealed by the (misguided) attempt to bring Indian Logic in connection with monotonic, deductively valid reasoning. As an illustration for non-monotonic reasoning one finds in the recent literature among others an inference in which on the basis of the information that a certain person is German in the absence of any evidence to the contrary the conclusion is drawn that he drinks beer. Does not this example indicate a cliché about nationalities, on a par with pieces of prejudice, such as 'All Russians drink Vodka', 'All Americans eat Hamburgers' etc.? Should not at least Germans have reason to find this illustration offensive? Apparently nobody protested, but why? The circumstance that such reactions are not mandatory signals an important difference of theoretical outlook. In fact, if Praśastapāda, Dignāga or Dharmakīrti had quoted this as an example of a valid *anumāna*-inference then Germans had indeed reasons to be disconcerted. According to the teachings of those and other representatives of 'Indian Logic' the assumption that Peter drinks beer can be validly inferred from the premise that Peter is German should at least presuppose that apart from Peter all Germans drink beer. In contrast admitting such pieces of reasoning would not oblige a representative of research in Artificial Intelligence to subscribe to similar dubious generalizations. This is because exceptions to a rule are in the latter context admitted from the outset, but not in the framework of Indian theories of inference, at least not in the period of Praśastapāda and later. It appears that in the historical development of 'Indian Logic' a zeal to filter out inferences complying with stricter demands than the postulate that the premises bestow a fairly high degree of probability to the conclusion set in quite early. As a correlate specimens in which the existence of exceptions is known beforehand or where the occurrence of exceptions can be expected are eschewed from the relevant domain. For that reason JT's contention that in Indian Logic 'from the very beginning something like monotonic, that is, deductively valid, reasoning was the ideal or norm' presumably relies on a sound intuition. This concession does not commit us to accept the view that pieces of reasoning licensed by the circumstance that premises bestow a fairly high degree of probability on a conclusion were never admitted in that tradition. It does not imply either an acknowledgment of the contention that non-epistemic versions of *trairūpya* must be understood as conditions from which the pertinent conclusion of an

inference logically follows.<sup>27</sup> Moreover, the thesis that by an imposition of strict standards of acceptability probabilistic inferences do not cease to be probabilistic inferences remains valid.

Non-epistemic versions of *trairūpya* taken as embodying restrictions on the validity of inferences disallowing the existence of exceptions to pertinent regularities at least in the domain of the universe (of discourse) apart from the substratum of inference, the *pakṣa*, attain significance by a peculiar consequence they imply. For every inference complying with those requirements it holds true that the same epistemic situation that should pertain to every individual performing an inference, namely a) that he knows that a pertinent *pakṣa* exhibits a pertinent *probans*, b) knows that the hypothesis of a universal regularity to the effect that wherever the *probans* occurs the *probandum* occurs too possesses some positive support and c) does *not* know that there are disconfirming instances, must equally qualify every individual who knows everything about the world, with the possible exception of the proposition that needs to be inferred. It is the plausibility of the supposition that the intuitive idea of acceptability under the perspective of one who is (almost) omniscient was influential in the Indian tradition of epistemology which makes attractive the suggestion that realistic versions of *trairūpya* can furnish a basis for an explication of validity of *anumāna*-inferences. Against this background it can also be ascertained that a situation in which validity is joined in this way to the teaching of *trairūpya* is potentially unstable. For whenever a *probans* comprises a small domain of possible instantiations the non-existence of disconfirming instances can easily be due to sheer coincidence. For everyone who dislikes the idea that valid inferences should yield true results by mere accident a fundamental reform must appear mandatory. Dharmakīrti had this dislike and altered the theory.

## V

Notwithstanding the merits expounded in the previous chapter I assert that one should discard JT's proposal because its acceptance would have the result that aspects of the matter are ignored which are of extraordinary importance. I contend that there are different types of validity and that Praśastapāda's work shows that we must clearly distinguish between them. Let us have a closer look at the textual passage in which Praśastapāda tries to explain what a (valid) inferential mark (*liṅga*) is. It reads as follows:

yad anumeyanārthena deśaviśeṣe kālaviśeṣe vā sahararitam anumeyad-  
harmānvite cānyatra sarvasmīn ekadeśe vā prasiddham anumeyavi-  
parīte ca sarvasmīn pramāṇato 'sad eva tad aprasiddhārthasyānumāpakam  
liṅgam bhavātī //

<sup>27</sup> The doctrine of *Trairūpya* would be pretty trivial and pointless if it merely demonstrated that by extending the number of premises the conclusion is deducible due to entailment. Any arbitrary conclusion 'Q' can be made logically derivable from any arbitrary proposition 'P' simply by adding the conditional 'P → Q' so that the conclusion follows from the extended set of premises by *modus ponendo ponens*.

yat tu yathoktāt trirūpāl liṅgād ekena dharmeṇa dvābhyāṃ vā viparītaṃ  
tad anumeyasyādhiḡame liṅgaṃ na bhavatīty etad evāha sūtrakāraḡ /  
aprasiddho'napadeśo 'san sandigdhaś ceti //

vidhis tu yatra dhūmas tatrāgnir agnyabhāve dhūmo 'pi na bhavatīti /  
evam prasiddhasamayasyāsandigdhadhūmadarśanāt sāhacaryānusmar-  
aṅāt tadanantaram agnyadhyavasāyo bhavatīti / <sup>28</sup>

That which (a) occurs together with the object [about which something] needs to be inferred (i.e. the *pakṣa*)<sup>29</sup> with respect to [at least] some particular locality or some particular time, (b) which is known [to occur] elsewhere in [the realm of] that which possesses the property to be inferred either in every [instance of that realm] or in some part [of it] and (c) which is, according to means of valid knowledge, only non-existent [and not existent] in the entire complementary [realm] of that which is to be inferred, that is an inferential mark which allows to infer an unknown object, such [is the import of Kāśyapa's statement].

That, however, which is contrary to an inferential mark exhibiting the three forms as explained [above] on account of one attribute or two is not a mark for the cognition of that which is to be inferred; precisely this the author of the sūtra said with the words]: '[A reason] which is not

<sup>28</sup> The quotation follows the text in Nenninger (1992, p. 31–33). Variant readings being irrelevant for the subsequent argumentation have been omitted; they can be found in Nenninger's edition. The pertinent textual passage is translated into German in Nenninger (1992) as follows:

D.h., daß das ein Beweismerkmal ist, das einen unbekanntem Gegenstand [korrekt] erschließen läßt,

[A'] welches mit dem zu erschließenden Gegenstand an [mindestens] einem bestimmten Ort oder zu [mindestens] einer bestimmten Zeit zusammen vorkommt,

[B'] und welches [als vorhanden] bekannt ist (*prasiddha*) bei anderem, das mit der zu erschließenden Beschaffenheit versehen ist, [und zwar] bei allem oder einem Teil [davon],

[C'] und welches im gesamten komplementären [Bereich] des zu Erschließenden einem Mittel der Erkenntnis zufolge (*pramāṇataḡ*) ausnahmslos nicht vorhanden ist.

Was aber in einer Beschaffenheit oder in zweien dem dreigestaltigen Beweismerkmal, wie es [oben] beschrieben wurde, zuwiderläuft, das ist kein [korrektes] Beweismerkmal für das Erfassen des zu Erschließenden; genau dies erklärte der Autor des Sūtra: „Was nicht bekannt (*apasiddha*) ist, ist kein Beweisgrund, [desgleichen / d.h.] was nicht ist (*asat*) und was zweifelhaft ist (*sandigdha*)“.

Das Prinzip (*vidhi*) [des Schlußverfahrens] aber [ist folgendes]: 'Einer, dem die übereinstimmung [von Beweismerkmal und zu erschließender Beschaffenheit] so bekannt ist: 'Wo Rauch ist, da ist Feuer, bei Nichtsein von Feuer ist auch kein Rauch;'—[dieser] trifft nach einer unzweifelhaften Wahrnehmung von Rauch [und] der Vergegenwärtigung des Zusammenvorkommens [von Rauch und Feuer] daran anschließend die Feststellung [des Vorhandenseins von] Feuer.'

<sup>29</sup> This corresponds to a relatively unusual, but possible way of using the expression *anumeya*.

known is not a [proper] reason [in the same manner as a reason]<sup>30</sup> which is not existent and which is doubtful.

The principle is however [as follows]: ‘For somebody who knows the connection in this manner, [namely] ‘Where smoke exists, fire exists; in the case of non-existence of fire, smoke does not arise either’, after an indubitable perception of smoke [and] after recalling the co-occurrence [between smoke and fire] a judgment concerning [the existence of] fire arises immediately after that.’

In the light of the quoted textual passage it is highly improbable that the author merely propagates the view that existence of the *probans* in the *pakṣa* in combination with its actual occurrence in at least one other instance where the *probandum* occurs and its actual non-occurrence in instances where the *probandum* does not occur renders an inference valid. The occurrence of the expressions *prasiddham* as well as *pramāṇato* in the first section must not be dismissed as irrelevant. Presumably JT wants to read the third section as a description of the way people carry out inferences which are made valid by compliance with non-epistemic versions of *trairūpya*. But is this plausible? Should we assume that the expression *vidhi* is employed to signal that the subsequent account is a description of how people usually perform inferences, given they are valid? To be sure, the word *vidhi* can refer to habits and regularities, including regularities of behaviour, but it is equally certain that the term is not seldom used to relate to norms and rules. Moreover, would not the account of the third section become blatantly false if it relates to a common habit? Isn't it far more realistic to suppose that people sometimes draw a correct conclusion from correct premises, such that the connection between premise and conclusion, as a matter of fact, complies with a regularity corresponding to a realistic version of *trairūpya*, without possessing anything like knowledge of that connection? Is it mandatory to suppose that people infer existence of fire from a perception of smoke only if the validity of their perception is exempt from doubt? Even supposed all this were indeed the case, how can Praśastapāda dare to ascribe to himself knowledge of what all people actually do in this respect. Was the writer of the *Praśastapādabhāṣya* an armchair-philosopher who had the impudence to regard himself as competent in matters of psychology, sociology and perhaps even in other sciences?

We do not know what kind of person Praśastapāda really was, but fairness commands to take notice of the fact that the consequence of making unwarranted claims does not follow if the remarks in the third section are taken as possessing a normative character. In itself this could amount to nothing more than that the pertinent part of the text was meant to present a possible model of a performance complying with the preceding explication of the nature of an inferential mark. The problem is, however, that if the remarks made in this context should merely illustrate a *possible* model, the information conveyed would be quite trivial and irrelevant. Moreover, the declaration that the

<sup>30</sup> Or perhaps rather: ‘... reason [that is to say a reason] ...’; compare Nenninger (1992, pp. 56–57).

presented description of a piece of reasoning complying with the definition imparts a ‘principle’, a *vidhi* in some sense of the term, is quite difficult to understand. Both the relevance of the remarks and the details of the wording are better intelligible under the premise that the concerned textual passage should entail some normative restriction. This alone would not be decisive and therefore the second section is important.

It can be safely assumed that Praśastapāda did not intend to express the opinion of some ‘sūtrakāra’ from which he wants to dissociate himself. Accordingly the remark to the effect that that which is at variance with the three-formed inferential mark as explained before by one or two qualities is not a mark with respect to the cognition of that which is to be inferred should represent the author’s own view. Even admitting that the exact import of the phrase ‘by one or two qualities’ (*ekena dharmena dvābhyām vā*) is not absolutely certain it can be safely ruled out that the author intends to express or imply in this passage that logical reasons not conforming to the conditions of *trairūpya* specified in the preceding section lose validity not by the circumstance that they do not comply with the specified requirements but because they violate *trairūpya* in a non-epistemic version. If, however, deviance from *trairūpya*, as specified in the preceding section, constitutes the criterion segregating inferential marks from items which do not belong to this class, how could it be supposed that the ‘epistemic’ ingredients, constituted by *prasiddham* and *pramāṇato* only convey that people not knowing that the *probans* occurs in the *pakṣa*, that the *probans* occurs together with the *probandum* somewhere else or that the *probandum* does not occur where the *probans* does not occur, are badly equipped for drawing a valid inference? Moreover, it must be supposed that the first section represents Praśastapāda’s definition of a valid logical reason. Accordingly it should present a precise specification of the necessary and sufficient conditions of something’s being a valid reason. Sloppiness of formulation should be strictly prohibited in such a context. The hypothesis that the author of the *Praśastapādabhāṣya* adopted a negligent attitude in matters of definition appears very improbable. This would mean that the writer of this treatise ignored a norm which was deeply entrenched in the tradition of Indian grammar and philosophy.

For various reasons it is illegitimate to object that later in the text a characterisation of an inferential mark is presented that does not contain an explicit reference to epistemic circumstances regarding the third condition of *trairūpya*. First, the subsequent description in connection with the pronouncement of an inferential remark in the context of a debate<sup>31</sup> represents merely a recapitulation. Not only because in general recapitulations permit less elaborate formulations but even on account of specific reasons the repetition can be considered as less explicit than the definition at the beginning. It is possible that since a fully explicit explanation had been already

<sup>31</sup> The formulation runs:

yad anumeyena saharitaṃ tatsamānajātīye sarvatra sāmānyena prasiddham tadvi-  
parīte ca sarvasmīn asad eva tal liṅgam uktaṃ tasya vacanam apadeśaḥ (Nenninger  
1992, p. 39).

presented, Praśastapāda bestowed more importance on assimilating the formulation to the wording of the quotation cited by him at the beginning of the chapter on inference attributed to some Kāśyapa.<sup>32</sup> After all, having communicated to his readers the allegedly correct import of the authoritative source he could reasonably expect that a reader would take the formulation of the recapitulation in the same manner as being not fully explicit as Praśastapāda himself treated the quoted textual source as being not completely explicit. Apart from this, it is even possible that the author intentionally deviated from the previous formulation assuming that in the context of a debate the epistemic demands involved in the third condition cannot be made on all the involved participants, more specifically, that the same epistemic requirements cannot be imposed from the outset to a person who should be convinced by an inferential argument. If none of the previously mentioned suppositions should be correct, it is still possible that the writer of the *Praśastapādabhāṣya* oscillated between different conceptions. At any rate, reference to epistemic notions is not confined to the explication of an inferential mark at the beginning of the chapter on inference. Such reference occurs in the context of Praśastapāda's discussion of the third member of the syllogism, the example (*nidarśana*). In this connection the relation of general concomitance between *probans* and *probandum* which the presentation of examples should support, is characterized by formulations of the form: 'What is H, is observed as S', 'What is not S, is observed as not H'.<sup>33</sup> It is equally implied in Praśastapāda's classification of fallacious reasons (*anapadeśa*) of the variety 'unestablished' (*asiddha*). Most significant is the circumstance that

<sup>32</sup> The beginning of the chapter on *anumāna* in the *Praśastapādabhāṣya* reads as follows:

liṅgadarśanāt sañjāyamānaṃ laiṅgikam /liṅgaṃ punaḥ /  
 yad anumeyena sambaddham  
 prasiddham ca tadanvite /  
 tadabhāve ca nāsty eva  
 tal liṅgam anumāpakam //  
 viparītam ato yat syād  
 ekena dvitayena vā /  
 viruddhāsiddhasandigdham  
 aliṅgaṃ kāśyapo 'bravīt//.

<sup>33</sup> For example:

tad yathā yat kriyāvat tad dravyaṃ dṛṣṭam yathā śara iti (Nenninger 1992, p. 45)  
 yad amūrtaṃ dṛṣṭam tan nityam . . . yad dravyaṃ tad kriyāvad dṛṣṭam iti ca . . . yad  
 anityaṃ tan mūrtaṃ dṛṣṭam . . . (Nenninger 1992, p. 47).

As a matter of fact there is an oscillation between formulations with and without *dṛṣṭam*, because we find also formulations such as:

tad yathā yad adravyaṃ tat kriyāvan na bhavati yathā satteti /(Nenninger 1992, p. 45)  
 yan niṣkriyaṃ tad adravyaṃ ceti (Nenninger 1992, p. 47).

Subsequently in the context of the explication of the fourth member, the *anusandhāna* (= *upanaya*), it is claimed that in the example the co-occurrence of *probans* and *probandum* is ascertained (*dṛṣṭa*).



an inferential mark that is not established for one of the disputants (*anyatarāsiddha*) is rejected as fallacious. This must mean that if a proponent does himself not believe that a pertinent substratum of inference does not instantiate the *probans*, if, in other words, he himself does not believe in the truth of the premise, the proof is fallacious. If validity were merely a matter of how things stand in the world, this should not be said. For, whether a premise is true or not, does certainly not depend on whether or not the proponent believes that it is true. Given that a pertinent premise is *de facto* true, why should an argument be invalidated by the mere circumstance that one or the other of the participants of a discussion fails to recognize its truth? It might be objected that losing validity on account of failure of recognition of truth is a different thing than losing validity because of the circumstance that the real world is not as it would have been if the conditions of *trairūpya* in their realistic version should be satisfied, and one could contend that 'validity' possesses a different import in both cases. But precisely this is my claim. The thesis is, that in the framework of theories of *anumāna*-inferences a concept of validity or acceptability is important that differs *both* from a notion of validity which could be equated with logical or even formal logical validity *and* from a notion of validity depending on facts of the external world. It is not claimed that the different notion of validity must be the only relevant one, despite the dismissal of the thesis that formal deductive validity is what Indian theories of inference tried to explicate. Although I maintain that the different variant of validity and acceptability possesses relevance for the doctrine of *trairūpya* and that the notion of this variety of validity becomes virulent in the above quoted definition of an inferential mark in the *Praśastapādabhāṣya*, those issues possess, in the final analysis, only secondary importance. What matters in the first place is the fact that such a concept is important at all.

It is not very difficult to identify the pertinent concept because it corresponds to a notion that is quite familiar. It emerges in certain informal explications of the import of defaults of Default Logic. For example, in Sombé (1990, p. 342)<sup>34</sup> it is said that an open default is any expression of the form:

$$u(x): v(x) / w(x)$$

and that the meaning of such a formula is: 'if  $u(x)$  is known and if  $v(x)$  is consistent with what is known, then infer  $w(x)$ '. One does not need to go into further details of the matter in order to clearly recognize that the underlying idea is to license the derivation of an inference given that a particular epistemic situation prevails; a situation pertinent in the present context is the existence of some knowledge about some entity, such that the supposition that the concerned entity possesses some property is consistent with that knowledge so that the conclusion that the entity possesses the pertinent property is licensed by the prevailing circumstances. This sort of licensing a supposition by an epistemic situation can be called 'epistemic entitlement'. The term

<sup>34</sup> Sombé (1990).

‘epistemic entitlement’ relates to the fact that one can attribute to some rational being a justification to suppose that something is true given that he with justification considers certain (other) propositions as true. Taken by itself the concept of epistemic entitlement, as it is intended here, is broader than that of possessing a license to infer something about some individual given that something is known about that individual. It can also encompass cases in which premises and conclusion are not about any individual object at all, for example, if one observes that it is raining and draws the conclusion that at some time in the near future it will be colder than before. Inferring something about a particular object due to knowledge about the same object represents only a special case.

It is quite easy to discern that whether or not the drawing of a conclusion given some epistemic situation could be regarded as being licensed by that situation can depend on the way the actual world really is. In a ‘possible world’ in which beer is absolutely unknown in Germany, it would be completely illegitimate to draw from the information that some person is German the conclusion that he (presumably) drinks beer. Precisely this is the reason why non-epistemic or ‘realistic’ readings of *trairūpya* would not lose theoretical relevance given that epistemic entitlement plays a vital role in theories of *anumāna*-inference. A significant feature of epistemic entitlement, or at least of the variety of epistemic entitlement relevant here, is that it allows for differences of degree. A person can be more or less entitled to regard some proposition as true. On the other hand the notion of epistemic entitlement possesses notable importance because it is intimately linked with the realm of ethics by the notion of responsibility of action. Due to this connection epistemic entitlement is also a matter of contextual circumstances and in principle sensitive to historical variation. Recently it was communicated in a television programme that a considerable number of medical products which had been declared by the manufacturers to be free of harmful side effects actually possess detrimental side effects specifically among older people. The decisive reason is that it has been a usual practice to test whether new medical products possess side effects with younger people who seldom take various medicines simultaneously. As a matter of fact, detrimental effects are specifically caused by combinations of different medicines. One can presume that the manufacturers who have failed to take into consideration the fact that older people typically consume a variety of medical products will not be accused of irresponsibility; on the other hand, such an accusation could be made if the conventional practice of testing side effects would be retained in the future. What this example makes plain is not only that standards of epistemic entitlement, such as the entitlement to suppose that medical products are not potentially dangerous, are variable but also that the appropriateness of adopting particular standards in particular contexts depends simultaneously on contingent matters of the world and on epistemic circumstances pertaining to those matters, such as the acquisition of the knowledge that under specific circumstances products are harmful which are not so otherwise.

It might be contended that the aspect of epistemic entitlement which in Praśastapāda's text is most prominently put into relief in the context of interpersonal argumentation in the form of rejecting specimens of a *probans* about which not all pertinent interlocutors are certain that it is exhibited by the pertinent substratum of inference, should be confined to the realm of public debates. In fact, in his paper 'Is Indian Logic Nonmonotonic' JT suggests that requirements which could be demanded for interpersonal discussions might not be pertinent for 'private' inferences.<sup>35</sup> We can ignore the question of whether in *some* respects the requirements of a good inference may differ from the requirements of a good proof. Decisive is the circumstance that it would be extremely implausible to suppose that the aspects of epistemic entitlement matters exclusively in the context of public debates. That the consequences of inducing false opinions in other people, possibly in a whole society, by causing them to accept conclusions not licensed by what is actually known are potentially more pernicious than if analogous errors are induced by an individual person with respect to himself appears to be true but is irrelevant. If there is a connection between being false and being potentially pernicious in the public domain then there is equally an analogous connection in the private realm. An individual drawing conclusions to which he is not epistemically entitled endangers both the recognition of what lies in his own interest and the chances to accomplish those interests. Moreover, responsibility in the act of convincing others of truths calls for responsibility in the act of convincing oneself of truths because in a standard setting of interpersonal argumentation a proponent intends to convince some other individual of something which he regards as true. For this reason the term *anyatarāsidhā* presumably implies the import which it linguistically should imply, namely *not* that a reason is fallacious if it is considered as incorrect by the opponent, but if it is not recognized as correct either by the opponent or the proponent himself.<sup>36</sup> Most decisive is, however, the fact that due to the connection between responsibility in reasoning and responsibility

<sup>35</sup> See Taber (2004, pp.154–155).

<sup>36</sup> In accordance with this one should assume that in a passage of Candrakīrti's *Prasannapadā*, where the author of the work makes the statement that, given that a Mādhyamika uses a form of argument which according to his own view rests on false premises, he cannot instil conviction (concerning the truth of the proposition he intends to establish) in other people (... *na śaknoti pareṣāṃ nīścayam ādhātum iti* — p. 19 in the edition of L. de la Vallée Poussin), the import of 'cannot' is not merely descriptive, but normative. That is to say, the writer does not merely want to affirm that a Mādhyamika, employing some argument, will never convince other people for contingent reasons, but that he has no right to demand that other people should be convinced by his argument. It must be pointed out that the preceding remark presupposes the correctness of an interpretation which I advocated in my book Oetke (2006) against alternative readings of the pertinent textual passage. At all events it is hard to deny the fact that in the same passage Candrakīrti declared that in a proof or public argument it is a rule that somebody who tries to convince other people employs a form of reasoning which he himself considers as compelling and which he could equally apply for convincing himself of the truth of the conclusion.

of action it is incumbent on everyone, inasmuch as the consequences of his actions effect also other individuals in some way or the other, not to base beliefs engendering actions on epistemic states that do not license those beliefs. No reasonable person would accept as a justification or excuse on the part of manufacturers of dangerous medical products the statement that they did not assert vis-à-vis an opponent in a public debate that their products are harmless. Since there is objectively not the slightest reason to ban the relevance of epistemic entitlement from the context of private reasoning, it would be whimsical to rule out the supposition that the authors of treatises on  *anumāna* -inference looked at the issue of inference under the aspect of epistemic entitlement. Hence a sweeping dismissal of the contention that the epistemic ingredients appearing in the initial definition in the inference-chapter of the  *Prasāsa-tapādabhāṣya*  reveal the perspective of epistemic entitlement can only be considered eccentric.

Interestingly, JT's position would imply an acknowledgment of the tenet advocated here if the occurrences of 'must' in the previously quoted passage were taken in a normative sense. Under such circumstances JT would have said that a  *hetu*  must satisfy the three realistic conditions of  *trairūpya*  and that an inferring subject must know that those conditions are satisfied if his reasoning should be counted as valid or acceptable. The only way in which this could not amount to a complete acceptance of my position would be an insistence on the contention that epistemic requirements affect only the validity of inferences whereas validity of a  *hetu*  or alternatively the premise of an inference, is exclusively a matter of non-epistemic conditions of  *trairūpya* . The difficulty of this stance is that it is wholly arbitrary. As long as one does not dispute the reliability of the textual transmission one is committed to suppose that the expressions  *prasiddham*  and  *pramāṇato*  belong to the original text. (JT makes no effort to show that the transmitted version of the text might be incorrect). If, however, the wording of the definition of an inferential mark contains those ingredients in the context where they appear in the transmitted text, then any dismissal of the tenet that the aspect of epistemic entitlement has affected the definition of  *trairūpya* , at least to some extent, becomes utterly capricious. But we might even grant the supposition that those expressions must be regarded as misplaced given the author's real intention. It would still be true that epistemic entitlement constitutes a relevant aspect for the appropriateness of inferences. This alone would suffice to establish a significant connection between the outlook of theories of reasoning developed in connection with research in Artificial Intelligence and that adopted in some teachings of  *anumāna* -inference. It would partly compensate the previously conceded divergence concerning the rigour of admissible deviations from a regularity or norm. One might think that JT could concede this point, but this is not true. If he made such a concession he would destroy the basis of his implicit contention that my strict separation between 'realistic' and 'epistemic' aspects of validity with respect to  *anumāna* -inferences is unnecessary or irrelevant. It could be at most contended that it is inappropriate to use the same term 'validity' with respect to the two facets of the matter. But this is a

trifling issue. Employing ‘validity’ exclusively in order to refer to non-epistemic conditions and, say, ‘legitimacy’ as a term that relates both to conditions pertaining to the outer world and to epistemic requirements which are needed for somebody’s being entitled to draw a conclusion, does not entail substantial changes.

It is plain that the *Praśastapādabhāṣya* as well as other texts belonging to the same tradition do not explicitly draw a differentiation between non-epistemic and epistemic facts as conditions legitimizing inferences. The significance of the distinction relies on the circumstance that it is of vital objective importance for default-reasoning in general. This is because that type of reasoning involves appropriateness of default-rules and appropriateness of their application as two ingredients. Among those the first component remains often in the background in theories of defeasible reasoning. Whereas the question of the appropriateness of default-rules is primarily a matter of the nature of the real world, appropriateness of their application defines epistemic entitlement. Hence the question of whether a component of a theory which pertains, at least among others, to defeasible reasoning, relates to epistemic entitlement or to non-epistemic conditions concerning the legitimacy of a default-rule<sup>37</sup> possesses utmost importance. It is presumably true that neither *Praśastapāda* nor the writers of other texts exhibiting apparent oscillations between epistemic and non-epistemic accounts of particular ingredients of *anumāna*-theory were fully aware of the difference and its significance. This phenomenon must not indicate a lack of astuteness. It can result from the circumstance that different issues lay in the focus of attention. This fact does not give us the right to ignore an objectively significant difference. Why is it imperative to leave all aspects of a matter vague and undifferentiated only because textual sources do not make things fully explicit? The apprehension that excess of perspicacity could be detrimental for the investigation of Indian culture can be easily pacified: There is no such danger.

## VI

To the question of what the epistemic entitlement of deriving a conclusion in accordance with theories of *anumāna*-inferences is, an easy answer would be possible if epistemic entitlement could be generally equated with knowledge of validity. Supposed, for example, that non-epistemic conditions of *trairūpya*

<sup>37</sup> Here the qualification ‘non-epistemic’ merely rules out a reference to the epistemic situation of an individual inasmuch as she derives a conclusion from premises by a piece of defeasible reasoning. It is surely not intended to disclaim the tenet, conceded before, that appropriateness of a default-rule possesses also an epistemic aspect in so far as *knowledge* about the world determines whether it is justified to accept a particular default and reasonable to hypothesize more or less rigid standards of selection.

define validity of an *anumāna* then epistemic entitlement could be identified with knowledge of the satisfaction of conditions of *trairūpya* under the pertinent premise. The problem is that such an equation is unjustified in general and implausible with respect to *anumāna*-inferences in particular.

Part of the reason lies in the circumstance that knowledge of validity is not a necessary requirement for being justified to assume validity. Due to the affinity of probabilistic reasoning explicated in theories of *anumāna* and empirical methodology including methodology in empirical sciences it is instructive to consider the issue of the validity of tests for not possessing detrimental side effects with respect to medical products. It seems plausible to suppose that such tests obtain validity by safely ruling out the possibility of harmful side effects; one might even say that validity of a test just equals its property to guarantee the fact that a pertinent product never causes harmful side effects if consumed by human beings. Considering the circumstance mentioned before that current tests have not taken into account that certain combinations of medical products possess harmful effects which the single products do not cause by themselves, one would need to say, under the pertinent assumptions, that those tests were *not* valid. It follows from this that, given the present state of knowledge, there is no justification to attribute validity to those methods of testing. But it does *not* follow that such justification never existed. To dismiss this as a possibility amounts to destroying the basis of justified attributions of validity in many important empirical matters. If being justified to attribute validity to a method can *only* mean that it is possible to attribute validity to the pertinent method under the conditions of omniscience then no human being would ever be entitled to make attributions of validity. Only lack of imagination can induce the belief that future methods of testing the innocuousness which take into consideration the discoveries about the effects of combining medicines must be infallible. These results can be transferred to the domain of default-rules of inference. A rule, such as

GERMAN(x): DRINKS-BEER(x) / DRINKS-BEER(x)

which should with respect to any arbitrary individual person license the derivation of the conclusion that she drinks beer, given the information that she is German and given that nothing known (by the inferring subject) supports the conclusion that the concerned individual does not drink beer—can be hypothesized as acceptable and valid, given a corresponding standard of validity. But there is no guarantee that, even if there is no change pertaining to the rigidity of standards, the default could lose validity in the light of additional information, in particular information refuting the supposition that drinking beer is a normal habit among Germans. Defeasibility does not only come into play at the level of deriving a conclusion by default but also at the level of the attribution of validity to default-rules themselves. Hence justified attribution of validity to a default is not equivalent to attribution of validity under the perspective of omniscience. Therefore epistemic entitlement to derive a conclusion from premises by default cannot be restricted to cases in which the

appropriateness of a rule licensing the derivation is definitely known. Since this phenomenon can be observed even against the background of a standard which permits exceptions to a rule from the outset, it should be even more pertinent against the background of a standard which stipulates by far stricter demands, as it is presumably the case in doctrines of  *anumāna* -inference.

A second reason disallowing an equation between epistemic entitlement with knowledge of validity concerns the application of a rule of inference. Let us suppose that the above quoted default (-rule) licensing the derivation that somebody drinks beer given that his being a German is known would be acknowledged as valid even under the perspective of someone who is omniscient and judges the matter in accordance with the originally hypothesized standards. Cannot we legitimately assert that under such circumstances everybody who draws the conclusion that some individual drinks beer, because he knows that she is German and does not possess any evidence supporting the contrary of the conclusion, performs a valid inference? But if it is legitimate to say this why shouldn't we admit that any such person is entitled to derive the conclusion from the known premises according to pertinent standards of derivability? If one admits this, and it seems most reasonable to make such a concession, then being entitled to infer something in accordance with a valid default-rule does not presuppose a knowledge to the effect  *that*  the default is valid. Again the result can be transferred to a theoretical framework erecting more demanding requirements for validity of inference-rules. Somebody can be credited with an entitlement to infer occurrence of fire from observation of smoke given that the inference rule in accordance with which he performs the inference  *is*  valid. Knowledge to the effect  *that*  it is valid could be completely irrelevant. This, accidentally, yields an excellent explanation of why non-epistemic formulations of  *trairūpya*  occur in the textual sources at all. The adoption of the stance that compliance with a derivation-rule which is  *de facto*  valid plus possession of knowledge of a pertinent premise suffices for epistemic entitlement is not unnatural. But the adoption of the contrary stance is not unnatural either. On the other hand, demanding more, in particular requiring knowledge pertinent for the supposition of the validity of an inference-rule for epistemic entitlement does not necessarily amount to a requirement of infallible knowledge of the validity of a (default)inference-rule. Therefore no objective basis exists for deducing from a) the assumption that epistemic versions of  *trairūpya*  incorporate as an ingredient of validity of an inference itself some epistemic entitlement to assume the validity of an inference-rule relying on a connection between  *probans*  and  *probandum*  b) the contention that the concerned epistemic ingredients can only relate to the knowledge that conditions of  *trairūpya*  are satisfied.

A clear differentiation between (i) legitimacy of inference-rules and (ii) legitimacy of employing inference rules for deriving a conclusion possesses vital importance. Possibly not only JT's later paper ('Is Indian Logic Non-monotonic?') crucially suffers from a failure to take this difference into account. From the fact that a teaching admits only rules of derivation which can be considered as valid under the perspective of an (almost) omniscient

being it does not follow that the theory can only license derivations which are legitimate under that perspective. On the other hand knowledge pertaining to (ii) does not entail knowledge pertaining to (i). Even in cases in which knowledge both with respect to (i) and with respect to (ii) exists, the knowledge-standards can fundamentally differ.

At this point the question whether or not epistemic entitlement in the framework of *anumāna*-inferences consists in knowledge of the fulfilment of *trairūpya* conditions, understood non-epistemically, is not yet settled. It has only been demonstrated that there is no compelling need to make this equation. As long as only the first two conditions of *trairūpya* are considered it appears in fact very plausible to equate epistemic entitlement with knowledge that the first two conditions are satisfied. To say that nobody is entitled to infer, for example, the existence of fire as long as he has not observed (a) some indicator, such as smoke, and (b) at least one corroborating instance where the indicator exists together with the *probandum*, is presumably incorrect in the final analysis, but not implausible. It is the third condition which poses the most decisive difficulties because the supposition of its satisfaction entails the truth of a universally quantified proposition. Therefore equating epistemic entitlement with knowledge of the satisfaction of all conditions of *trairūpya* demands the admission of possible knowledge of universal regularities expressible by universally quantified propositions on the part of finite beings like men. Otherwise epistemic entitlement would become a completely vacuous notion. For this reason the contention that demand of knowledge of universal regularities is inappropriate and that epistemic entitlement must be connected with some sort of justification for supposing a universal regularity is by no means eccentric. This implies that epistemic entitlement for assuming the satisfaction of the set of conditions of *trairūpya* consists in some knowledge which supports this assumption without entailing it. But there are two variants of posing the decisive question, namely either (a) ‘Is knowledge of a universal regularity always required for an epistemic entitlement to derive a conclusion from known premises by an *anumāna*-inference?’ or (b) ‘What does knowledge of universal regularities (possibly) mean if it is considered as being required for an epistemic entitlement to perform an *anumāna*-inference?’

Surprisingly, JT suggests that a sweeping answer to this query could be appropriate. He has to consider this question as being settled by the answer that being epistemically entitled to perform an *anumāna*-inference requires definite knowledge of a universal relation of concomitance between *probans* and *probandum*. But this poses the question as to what knowledge of a universal concomitance might amount to. If JT is not ready to ascribe to himself supernatural perceptive capacities he could be in the predicament of being forced to admit that he himself is not entitled to infer fire from smoke in compliance with the supposed standards of an *anumāna*. For if JT conceded that knowing that smoke always co-occurs with fire must mean for ordinary people essentially less than it would mean if everybody possessed the capacities of saintly seers who can directly perceive each object of any non-surveyable domain, he would acknowledge that there is a problem



connected with the question of what knowledge of universal regularities means.

The issue of what according to the doctrine expounded in the *Praśastapādabhāṣya* epistemic entitlement for assuming a universal regularity is, might be in fact definitely settled if one assumed that the author of this work propagated the tenet which JT mentions at the end of his article, a view according to which the apprehension of a ‘pervasion’ (*vyāpti*) between *probans* and *probandum* is made possible by a special kind of perception akin to ‘yogic perception’. It seems that JT tends to believe that the issue can be settled in this manner. For otherwise it would be difficult to explain why he affirms that all other alternatives are merely ‘dreamed up’ (p. 698). Anyhow, also the supposition that Praśastapāda claimed or was disposed to claim that knowledge of the satisfaction of the third condition of *trairūpya* must be warranted by something akin to the perception of seers grasping innumerable objects or that epistemic entitlement should rely on eccentric faculties could only be ‘dreamed up’. As far as one can see, such hypotheses are without any basis *both* against the background of textual-philological considerations *and* against the background of objective plausibility.

It is a curious phenomenon that sometimes in Sanskrit studies interpreting texts in the light of other works and imposing views found elsewhere to other textual sources enjoys high reputation. On the one hand there are trends which want make us believe that the writers of Sanskrit texts are precursors of the supposedly greatest figures of Western thought, such as Kant, Heidegger or Derrida. Actually, it is not seldom even suggested that the views propagated by authors of the former class are, in some respects at least, better than those of the latter category, something which can arouse pleasant feelings due to the fact that *if* those suggestions were true then spending more money for Sanskrit studies could be reasonable. However, on the other hand there are also trends which are disposed to reject the former approach as not conforming to standards of serious scholarship because it allegedly imposes foreign ideas and thereby distorts actual historical facts. As an alternative the option is offered to understand the textual sources ‘in the light of their own historical context’—whatever that means—implying an obligation to take previous and later historical developments into account. Now, apart from the circumstance that historical development is a legitimate object of investigation in itself and actually studied on that account, employing later textual sources in connection with the aim to interpret earlier sources occurs also in other fields. However, the legitimacy of this practice derives from the circumstance that one must consider other investigations and other opinions on a pertinent subject matter to avoid ignorance of potentially relevant facts. In accordance with this, consultation of later textual sources is practiced in respectable disciplines with the aim to avoid the danger of overlooking possible alternative interpretations, but not with the opposite intention to disregard interpretational possibilities. Even in the context of the task of weighing between different alternatives of textual exegesis it is incumbent on the interpreter after having recognized all

pertinent alternatives and ascertaining their implications to base decisions on his own judgment. Mere coincidence of a view with some view advocated elsewhere can never possess the status of a decisive argument for truth in science, even if it might be operative in other fields of life, such as religion. One cannot completely rule out the possibility that due to lack of theoretical talent in the Oriental disciplines the practice of employing opinions of others as a crutch for settling more difficult issues of textual exegesis becomes an established norm in Sanskrit studies. But this circumstance alone cannot bestow respectability on corresponding methods and practices. It cannot eliminate the fact that in principle there is no difference between the discredited approach of imposing Western views on Indian thought and the allegedly reputable historical method of interpreting texts against the backdrop of their own tradition.

Avoiding inconsiderate impositions of views occurring somewhere in a tradition to individual specimens belonging to it is not merely dictated by some sort of a historic philosophical interest but possesses, paradoxically, utmost importance under the aspect of historical interest. The reason is that a method which decides issues of exegesis by a criterion of same-saying, as if the probability of a view ascribable to a textual source or its author is exactly proportional to the extent to which the same view is expressed in other items, is suited to distort historical facts. Such a method would not entail the danger of gross distortions only if the Indian tradition of thought were, as a matter of fact, constituted by a sequence of same-sayers. It does, however, not enhance the respectability of a method if it engenders correct results only under dubious empirical premises, such as the assumption of the 'homogeneity of Oriental cultures'. Matters become even worse if questionable premises are reinforced by the very methods presupposing them.

Even if a tradition of thought or a particular school of thought contains a sequence of ideas and views related to each other and exhibiting relations of dependency a highly probable situation is that elements which are indefinite at earlier stages of historical development become more definite at later times. Describing historical developments in accordance with this assumption does not impose a strict homogeneity and diminishes the danger that facts are feigned by method because the underlying assumption is less restrictive and more realistic. It is surely no guarantee against the creation of distortions because the possibility that elements of teachings which are commonly relegated to one and the same tradition are completely unrelated is always realistic. Accordingly a most satisfactory method is to try to present an account of epistemic entitlement which stands with respect to historically later sources in the relation of being less determinate *provided that* the result is obtained in a way which does not *presuppose* that the relation between earlier and later sources exhibit a relation of increasing determinacy.

Abstention from imposing a doctrine of perceptual ascertainment of universal regularities on earlier teachings possesses also the advantage of revealing the existence of objective theoretical alternatives which are at any

rate less problematic. As a matter of fact, if doctrines like the ones cited by JT represented the *only* theoretically possible answer to the question then one would presumably need to lay theories of *anumāna*-inference to the file as outdated aberrations. We will revert to this point later. Envisaging alternative possibilities which are both objectively feasible and compatible with pertinent textual sources is the best and maybe the only possible way of avoiding the consequence that Indian doctrines of *anumāna*, or most of them at least, possess merely scrap value.

Even without looking at later historical developments one can definitely ascertain that there are realistic possibilities to validate Praśastapāda's account. Various related alternatives exist which could plausibly specify one or the other kind of epistemic entitlement. Most relevant is a group which correlates with the intuitive notion of a situation in which an inferring subject, apart from possessing positive support for the hypothesis of a regular concomitance between *probans* and *probandum*, possesses no evidence for the fact that the *probans* ever occurs without the *probandum*. The latter circumstance could be equated with something which is a bit misleadingly called 'justification' in default-logic, namely the component which permits a conclusion by not containing any evidence to the contrary. One must be aware, however, that in this context not the derivation of a conclusion by an established rule of default-inference, but the adoption of a hypothesis of a regularity by default-reasoning is primarily at stake. Only indirectly does this fact provide legitimacy for the derivation of a particular conclusion, such that fire exists in some particular place at some particular time, from a particular piece of knowledge. A major reason why it is necessary to account for finer grained differences within the group of epistemic situations where no support for disclaiming a regularity exists—whether in the entire universe or specifically in the domain with the exception of the *pakṣa* can be left out of consideration here—is that not all varieties entail a plausible epistemic entitlement to suppose the non-existence of exceptions to a rule. After all, the circumstance that somebody does not know any exceptions might only indicate his indolence. The less an individual is concerned about ascertaining the relevant matter the higher the probability that he will not encounter any disturbing fact. Some of the considered alternative varieties impose an at least minimal restriction on possible indolence by demanding for epistemic entitlement a knowledge of some instance that exhibits neither the *probandum* nor the *probans*.

It appears idle to speculate about the question of what Praśastapāda actually had in mind when he wrote his definition of a proper inferential mark. On that account one might characterize the above considered possibilities as being 'dreamed up'. There is no objection on my part of classifying them in this manner because they have undoubtedly not been gained by inspecting Praśastapāda's brain with respect to the hours, minutes or seconds during which he wrote down the above quoted passage of the text. But who else has gained his results in this manner? Let us consider on the one hand a remark which says that a *probandum* must never occur in the realm of objects lacking the *probans* in accordance with a *pramāṇa* or in accordance

with (the) *pramāṇa*-s and on the other hand an explication according to which that remark stipulates that knowledge of objects lacking both the *probandum* and the *probans* in combination with non-existence of knowledge refuting the assumption of a regularity constitutes an epistemic entitlement to perform an inference: Is not the affinity of content in combination with the objective appropriateness of the theorem represented in the explication sufficient to bestow plausibility on the account? Should not the same criteria equally bestow plausibility on a similar account of Praśastapāda's remark at the beginning of the section on inference? Isn't this fact far more important than the possibility that Praśastapāda might not find a same-sayer in Jayanta or other persons? It is true that there are also other, slightly deviant, alternatives possessing hardly less right to claim the status of representing a correct explication. But this could be merely a consequence of the circumstance that not only the wording of the text exhibits vagueness in some regard but that even the views of the writer of the pertinent textual passage were not fully determinate. Decisive is that a number of variant alternatives have in common that they do not entail the third condition of *trairūpya* in any non-epistemic reading. This fact should suffice to dismiss JT's description according to which non-epistemic formulations *must* be taken as indicating that knowledge of the satisfaction of the three conditions of *trairūpya* represents a necessary requirement for performing an inference. It induces too gross a simplification of the matter.

## VII

It could be objected that too much weight has been attributed to details, such as the occurrence of the words *prasiddha*- and *pramāṇa*- in the above discussed passage of the *Praśastapādabhāṣya* although other textual passages of the same work support the hypothesis that the occurrence of those expressions is not accidental. But it is not expedient to assess the question whether apparently minor details of formulation are potentially relevant exclusively with regard to a textual source of the past. JT's second objection appearing at the very end of his article provides a more pertinent background for inspecting this issue. In some passages of my book *Studies on the Doctrine of Trairūpya* it has been mentioned in passing (e.g., pp. 90, 112–113) that the problem of the verification and of knowledge of universal propositions had not been satisfactorily answered in the Indian philosophical tradition. In this connection JT raises the objection that the problem is discussed extensively in the Nyāya-Vaiśeṣika literature after Dharmakīrti. As a most pertinent example he cites the view of Jayantabhaṭṭa according to which the apprehension of pervasion (*vyāpti*) should be attributed to 'a special kind of perception akin to yogic perception called *yauktikaṃ pratyakṣa*'.

The circumstance that the problem of verification and knowledge of universal propositions and regularities coming into play in the context of *anumāna*-inferences has been discussed in the later Indian tradition is by no means irrelevant. But it is puzzling why JT uses this fact for substantiating his second ‘substantive criticism’. The only plausible explanation is that the objection should be directed against an affirmation to the effect that the problem of universal propositions has not been treated in the Indian philosophical tradition. This point is, however, completely irrelevant inasmuch as this thesis was not asserted, at least not in the passages of the book on *Trairūpya* to which JT explicitly refers. There the relevant contention is that the problem of knowledge and verification of universal propositions had not been *satisfactorily* answered and was not *adequately* treated. It is absolutely certain that a neglect of the qualifications embodied by the expressions in italics induces a misunderstanding. Precisely views such as the one described by JT in his exposition of Jayantabhaṭṭa’s doctrine motivated the suggestion expressed on p. 113 to the effect that the theory of *pramāṇa*-s and the associated tendency to conceive knowledge under the restricted perspective of knowledge of objects hampered a fruitful account of the problem of universal propositions. It appears that JT’s critical remark, ironically, rather supports than disproves the pertinent contention. Anyhow, in the final analysis the only decisive point is that *if* there is a possibility to refute the thesis that the issue of the verification and knowledge of universal propositions and regularities has not been adequately treated in the Indian tradition *then* it does not suffice to point out that there were thinkers who *attempted* to solve the difficulty. This means with respect to Jayanta’s doctrine in particular that one would need to show that it provides an adequate answer or at least a suitable basis for an adequate solution of the pertinent problem. Finding a proof for this contention could be a challenging task, but JT does not attempt to outline even the beginning of such a proof.

In this connection it is apposite to clarify in some more detail why it appears that the problem of verification and knowledge of universal propositions has not been adequately dealt with in the Indian philosophical tradition. Actually there is no need to definitely establish that *nowhere* in the source material an adequate solution could be found. The fact that even in the later tradition after Dharmakīrti the issue has been insufficiently treated in *some* representative sources possesses sufficient interest and relevance in itself. In the following main focus will lie on two issues:

1. Vindication of a universal statement by perception can amount to different things. The differences are important because they affect the degree of fallibility of the support which acts of sense-perception provide for the hypothesis of universal truths. Specifically relevant is the distinction between a) perceiving *regarding* particular objects of a certain kind or belonging to some domain that they exhibit certain qualifications and b) knowing by or with the help of perception that objects of some kind or

domain exhibit certain qualifications. In the case of b) fallibility of support rendered by perception can be pretty high.

2. The degree and the manner in which perception might or might not come into play for the verification of universal statements depends on the specific character of the propositions to be vindicated. It is wholly inappropriate to lump all universal propositions together.

For the most part my dissatisfaction concerns the fact that relevant differences and varieties have not been adequately acknowledged. Hence we will discuss the issue in two steps: 1. Demonstrating with an example that the issue of the vindication of universal hypotheses is dealt with without accounting for differences in the domain of universal propositions. 2. Arguing that differences exist which *are* relevant.

For this purpose we consider a textual passage that has been written even later than the works which JT mentions to substantiate his contention that the problem of the knowledge of universal propositions has been discussed in the Nyāya-Vaiśeṣika literature after Dharmakīrti.<sup>38</sup> For a clearer understanding of the problems connected with universal propositions, their verification and knowledge an investigation of a section appearing in the chapter on inference in the *Nyāyalīlavātī*, a work which was probably created in the twelfth or at the beginning of the thirteenth century by a writer named Vallabha or Vallabhācārya, is a suitable means. A passage in which the author attempts to vindicate the tenet that a universal connection (*pratibandha*) between *probans* and *probandum* can be ascertained and in this manner makes valid inferences possible is highly instructive in the present connection.

The relevant section of the text reads as follows:

na ca pratibandhāvedanam / vyaktimātrasahitajātinirbhāsāt / mātrārthasyāpi puraskṛtajātīdvayātiriktavyaktiviśeṣaṇānupādānarūpatvāt / tādrśasya katipayaviṣayabhūodarśanajasamskārasacivabāhyendriyavedyatvāt / tathaiva śakter avasāyāt / anyathopādānādivyavahāravilayāt/ na hi dr̥ṣṭam upādeyam upāttatvāt / nāpy anāgatam /anavagatatvāt / na ca tad evānumitam /anavagataniyamtvāt / na ca jātir anumeyā / tasyā anupādeyatvenānumānavirodhāt/ na ca jātiḥ kāraṇasambandhānupapatter vyaktim ākṣipati / hetau saty anantarabhāvasya hetvabhāve' bhāvasya jātāv anupalabdheḥ /astu jātimatī vyaktir iti cet, na, upādeyavyakter anavagamāt / tato jātimattayāśeṣavyaktinirbhāsa tāvat siddhaḥ / anyathā cetanamātrapravṛttivilayāpatteḥ / atra ca katipayavyaktigocarasaṃskārasahakṛtasya cakṣuṣa eva sāmāthyam /

<sup>38</sup> JT mentions in this context the *Nyāyavārttikatātparyatīkā*, the *Nyāyabhāṣaṇa* and the *Nyāyamañjarī* as three pertinent examples.

ananyathāsiddhānvayavyatirekabalāt doṣasahakārivaśād asannihitapadārtha-  
pratibhāsa iva viparyayapratipattiṣu jāteś ca kāryatvena sāhacaryavirodhāt //<sup>39</sup>

The train of thought can be reconstructed as follows:

A *pratibandha*, i.e. a (non-contingent) universal proposition of the form ‘all H’s are S’s’<sup>40</sup> is (not not) apprehended because generalities (*jāti*) appear as connected with a particular *per se* (i.e. they appear as

<sup>39</sup> In the edition of Śāstrī (1927), the quoted textual passage appears on pp. 492–495 and in the transliterated text-edition of Sjödin (2006, pp. 72–73). In Sjödin (2006, pp. 79–81) a translation is offered which reads as follows:

And it is not the case that there is no grasping of an invariable relation, because the appearance of a generality (*jāti*) encompasses all and every one (*mātra*) of the particulars. As for the purpose of the word “*mātra*” this is used because of an exclusion of the characterizations of particulars different from the two indicated generalities [*dhūmatva* and *vahnitva*]. Because such an [invariable connection] is grasped by an outer sense assisted by mental traces that are produced from repeated observations of some particulars; because it is determined by the power [of the traces] in this manner. [Also] Because otherwise the everyday practice of appropriating etc. is destroyed. For that which was seen (i.e. by sense perception) is not to be appropriated, because it has already been appropriated. Nor is it a future [object] because it (i.e. a future object) is not perceived.

Nor is that [future object] inferred, because the restriction (i.e. invariable relation) is not apprehended. Nor is the generality to be inferred, because in as much as it cannot be appropriated it is incompatible with inference. And it is not so that the generality implies the particular since the connection to a cause is not established. Because in the case of a generality it is not perceived that it exists when the cause is present, and it does not exist when the cause is absent.

[Cārvāka] – Let the particular possess a generality.

[Vallabha] – No, because a particular to be appropriated is not apprehended. Therefore the appearance of all particulars is indeed established as possessing a generality. Because otherwise the activity of every sentient being would be impossible. And here (i.e. on apprehending an invariable relation), the sense of sight, assisted by mental traces whose object consists in several particulars, is capable [of apprehending the invariable relation], [it is apprehended] due to the force of positive concomitance and negative concomitance (*anvaya* and *vyatireka*) which could not be established otherwise. [It is not apprehended] due to the influence of [the cognition] being accompanied by faults in an erroneous cognition like the seeming appearance of a remote object, and [it is not apprehended] because the generality, as a result [of an inferential process], is incompatible with concomitance (*sāhacarya*).

<sup>40</sup> Here ‘H’ primarily relates to a *probans* and ‘S’ to a *probandum* in some particular context of inference or inferential proof. This should not definitely rule out the possibility of conceiving a *pratibandha* as a relation connecting items of the sort of a *probans* and *probandum* in general irrespective of whether or not they are employed in those functions. In the present connection the question of whether the universal connection holds good in the entire universe or specially in the domain of entities numerically different from a substratum of inference, a *pakṣa*, can be disregarded. Accordingly the formulation ‘All H’s are S’s’ can be alternatively read as being equivalent to ‘ $(\forall x)(Hx \rightarrow Sx)$ ’ or to ‘ $(\forall x)(x \neq p \rightarrow (Hx \rightarrow Sx))$ ’, where ‘p’ is an abbreviation for ‘the *pakṣa*’. The expression ‘non-contingent’ has been added in brackets because it is not fully clear whether or not the import of *pratibandha* is stronger than that of a universal connection expressible by sentences of the forms ‘All F’s are G’s’ since merely accidental connections, such as that represented by ‘All your cups are in the cupboard’—or ‘All children of Mitrā are dark-skinned’—might not qualify for the status of a *pratibandha* of the pertinent kind.

connected with all particulars in so far as they exhibit the pertinent generalities).<sup>41</sup> For even the significance of the expression *mātra* has the nature of not including any characteristics of particulars apart from the pertinent two generalities.<sup>42</sup> Hence such a connection can be apprehended by the outer sense-organs (i.e. the eye etc.) being assisted by mental traces or mental impressions (*saṃskāra*) that arise due to repeated perceptions of several objects. For just in this manner their capacity<sup>43</sup> is determined because otherwise the practice of appropriation etc. would terminate.<sup>44</sup>

[This must be so] because [of the following consideration:] That which is to be appropriated is not something perceived [before] since [that] would have been appropriated [before].<sup>45</sup> It is also not something future because [an item that exists only in the future] has not been recognized [by perception] and that is also not inferred because a [strict] restriction [between the occurrence of a *probans* and that of a *probandum*] is not recognized [with respect to future items]. Moreover a generality is not inferred [as something that might be appropriated] because on account of the fact that it cannot be appropriated it militates against [such an] inference. On the other hand a generality does not indicate a particular [as something that could be inferred from the generality] because in the case of a generality one does not observe that it immediately originates if a cause is present and does not originate if a cause is not present (so that a causal connection between particulars and generalities cannot be assumed). It might be objected that there could be a particular possessing

<sup>41</sup> Or: appear as something that is potentially connected with all particulars.

<sup>42</sup> That is to say, although the expression *mātra*, appearing in the preceding sentence has the function of referring to a totality of particulars and as such amounts to a universal quantification, it does not imply anything about the exemplification or non-exemplification of special characteristics on the part of all particulars apart from the ones which are pertinent in some context, which are in the present context the two generalities corresponding to the *probans* and the *probandum*.

<sup>43</sup> It is not clear whether the capacity (*śakti*) mentioned in this connection should relate to the capacity of the 'mental traces' to 'assist' the sense-organs in order to perform the pertinent function—as supposed by Sjödin 2006 (p. 80)—or to that of the sense-organs to trigger some sort of behaviour on the part of a subject performing some piece of valid inferential reasoning. Possibly even both readings are intended. (Accordingly *eva*, rendered above by 'just' may be equivalent to 'only'.)

<sup>44</sup> This is to say that if an apprehension of the described sort would not exist then actually existing ways of behaviour of trying to obtain objects in order to employ them for some purpose or to avoid or disregard them because they are considered as harmful or useless would not be possible.

<sup>45</sup> We might presume that items to be appropriated could be either objects that are capable to fulfil some useful purpose, such as a fire, or some or the other inherent dispositional quality, such as the capacity to cook and boil, on account of which objects can be used for the satisfaction of desires and needs. Moreover, we should presumably assume that the same form of reasoning is *mutatis mutandis* also applicable to items which are potentially harmful and need to be avoided.



a generality. [But this does] not [offer any solution] because [if it were not supposed that all particulars are manifested as being endowed with a generality in the manner described above then] a particular that is to be appropriated is not apprehended. Therefore it is established that on account of possessing a generality all particulars without remainder come into view. For otherwise the unacceptable consequence would result that the activities of all living beings (inasmuch as they rely on inference) [must] cease. For this practice, however, [sense-perception by a] sense-organ supported by mental traces whose range [of causes] consists in [perceptions of] several particulars by virtue of positive and negative concomitance which is ascertained in no other way is sufficient. (That is to say, after ascertaining by the perception of a limited number of objects that every object exhibiting some generality A also exhibits a generality B and that no object exhibits A that does not exhibit B, this experience creates a disposition enabling a person, when she ascertains that some newly perceived object exhibits A, to acknowledge that the object must exhibit B and to orientate her future behaviour by the recognition of this fact)<sup>46</sup>

The passage dealing with the apprehension of *pratibandha* is dividable into three sections, viz. (1) the statement that a *pratibandha* can be apprehended along with an explanation of the way in which this is possible, (2) an argumentation trying to establish that apprehension of a *pratibandha* is a necessary requirement for certain specimens of actually existing behaviour, (3) an exposition of the tenet that the manner in which a *pratibandha* is apprehended according to the given explanation represents a sufficient condition for the occurrence of the type of behaviour discussed in section (2). Against this

<sup>46</sup> The interpretation of the last expressions of the quoted passage, viz. *doṣasahakāriṅvaśād asan-nihitapadārthapratibhāsa iva viparyayaapratīpattiṣu jāteṣ ca kāryatvena sāhacaryavirodhāt*, remains unclear. One could understand them as substantiating the contention that sense perception ascertaining positive and negative concomitance is sufficient for inducing behaviour based on inference. The first part of the argument might be that an implication of the asserted tenet about the capacity of sense-perception, namely that sense-perception induces behaviour which is not completely warranted by its own content alone, is acknowledged even by potential opponents of the asserted tenet who assume that specimens of error arising if an object that is not close by appears as if this were so are caused by sense perception due to the impact of a defect accruing to the sense-organs. The significance of the expression *iva* would accordingly be to indicate an analogy. The other part of the argument is perhaps that since for a generality (the assumption of) an association with the property of being produced is inconsistent, the relation of concomitance between generalities whose observation is relevant for inference and practice based on it cannot be interpreted as a causal relation. In fact, if an observed entailment between the *probans* and the *probandum* were due to the fact that the appearance of the former causes the appearance of the latter then the link could always be obstructed due to the intervention of an additional cause which, under pertinent circumstances, prevents the cause to produce the effect which it could otherwise generate. As a result previous observations of concomitance would be a very unreliable guiding line for making predictions and basing practice on expectations. Unfortunately the existence of other permissible readings cannot be ruled out. This is due to the extremely high degree of (syntactical and lexical) ambiguities, vagueness and conciseness of the formulation in the pertinent textual passage. What matters is that the uncertainties in detail do not affect the validity of the subsequent remarks.

background the middle section and generally any consideration pertaining to the question whether apprehension of a *pratibandha* is a necessary condition for the occurrence of some actually existing phenomenon possesses central importance.

The argumentation for the thesis that apprehension of a *pratibandha* is an indispensable requirement for the occurrence of ‘appropriation’ and other sorts of actual practice can be illustrated by the example of a case in which after inferring the occurrence of something, such as fire, from an indicator, such as smoke, practically relevant properties are ascribed to the inferred object. Although two topics which are brought into play in the context of the discussion of the cognition of a *pratibandha* in the *Nyāyalīlāvatiṅprakāśa* as well as the *Nyāyalīlāvatiṅkaṅthābharana*, two commentaries on the *Nyāyalīlāvati*, are systematically connected in this manner, another fact possesses primary importance: The selected mode of presentation manifests in a most immediate way that different issues need to be distinguished, viz. (a) the issue of inferring the existence of something by means of a sign or a symptom and (b) the issue of recognizing in objects qualities whose existence possesses relevance for all practice concerning those objects. It is by no means certain that the writer of the *Nyāyalīlāvati* intended to refer to (a) at all in the section dealing with the contention that recognition of a *pratibandha* is a necessary requirement for phenomena of actual practice. Because of the indeterminateness of the formulations the concerned textual passage could be equally brought in connection with phenomena such as employing *actually perceived* fire for the purpose of boiling food etc. on the one hand or specimens of behaviour such as keeping a distance from fire in order to avoid being burnt on the other. At any rate, it appears that the capability to recognize practically relevant dispositions of objects constitutes the decisive argument in the final analysis.

The existence of those capabilities can hardly be denied. But we should critically ask: What follows from this fact? One might think that it is pretty clear what follows from this fact at least in the eyes of the writer of the *Nyāyalīlāvati* and that the answer should be: It follows that a *pratibandha* is apprehended. It needs only very little reflection to recognize that the clarity is merely apparent because a crucial question must be posed here: What does it mean that a *pratibandha* is apprehended? In this connection the vagueness of the Sanskrit term which has been rendered by ‘apprehend’ or its nominal derivatives attains central importance. An elimination of the vagueness requires a clarification about the epistemic status of universal propositions, such as: ‘Every instance of fire is a suitable means to boil water’ etc. with respect to somebody who regularly behaves in the manner that he uses fire for boiling water. At least one thing should be beyond any reasonable doubt: From the mere fact that somebody or a number of people usually use certain means for specific purposes it does *not* follow that those people know that the used means are generally suited to realize the pertinent purposes and that corresponding universal propositions are true. Usual practice can be and often even is based on false assumptions. Otherwise all

kinds of belief in the effectiveness of witchcraft would automatically qualify as knowledge. To be sure, presumably the aim of the pertinent section of the *Nyāyalīlāvātī* is merely to show that ‘apprehension’ of a *pratibandha* is not generally impossible and that *some* specimens of *pratibandha* are actually ‘apprehended’. Therefore a proper reconstruction of the argument should be that there are some *successful* ways of behaviour, such as employing fire for boiling water, which are based on the recognition of universal propositions. But the problem remains that if the pertinent relevant propositions should be an object of possible knowledge they need to be true. What demonstrates that they *are* true? Here one can hardly retort that their truth is vindicated by the circumstance that the corresponding behaviour is always successful because this directly leads to a circle. The problem is merely shifted to the vindication of the tenet that the corresponding way of behaviour is always successful.

Ironically, it is the author of the *Nyāyalīlāvātī* himself who mentions a phenomenon that invalidates such types of argument. A little later in the same chapter of the work in connection with his discussion of *upādhi* Vallabha mentions a specific variety of factors rendering inferential proofs invalid. The peculiarity of the pertinent situation is that some regularity is observed in a limited realm, such as the realm of children of a particular person. Here it is easily conceivable that the extrapolation of a purported regularity between a specific quality, such as being the child of some person and some other quality, e.g. being dark-skinned, goes astray. The decisive reason is that only an additional factor, e.g. the circumstance that the mother has eaten some sort of food before childbirth, could guarantee an invariable concomitance with respect to some quality to be inferred. The fact that an open sentence of the form ‘ $(Fx \rightarrow Gx)$ ’ is satisfied in some domain is perfectly compatible with the fact that not this formula but only ‘ $((Fx \ \& \ Hx) \rightarrow Gx)$ ’ or equivalently ‘ $(Hx \rightarrow (Fx \rightarrow Gx))$ ’ is satisfied in an extended domain. If predictions can be successfully made in a finite realm there is usually no guarantee that analogous predictions are equally successful in a more comprehensive realm. It should be no surprise if the author of the *Nyāyalīlāvātī* does not attempt to specify some lower limit so that the possibility of such failure could never arise in domains whose number of elements exceeds that limit. Presumably a general specification of that sort *cannot* be given.

The argumentation supporting the tenet that apprehension of a *pratibandha* is a necessary requirement of established practice might show that people usually *regard* certain universal propositions as true and that considering them as true is a necessary condition not only for the occurrence of that practice but also of its being rationally justified. If this were conceded one could admit that the text presents a suitable argument for a thesis which results if the term ‘apprehend’ is interpreted as ‘believe to be true’. Against this background the remarks to the effect that apprehension of a *pratibandha* is brought about by sense perceptions pertaining to a plurality of objects in conjunction with ‘mental traces’ enabling beings to recall past experiences can be interpreted as providing an account of how it happens that people believe that certain universal regularities hold good and employ that belief

for acting in specific ways. Now it might be objected that the intentions of the writer of the text presumably go beyond the aim of merely pointing out a mechanism by which beliefs in universal regularities are created. Isn't it most probable that the final aim lies in establishing that people are justified in believing in the existence of universal regularities and that the remarks pertaining to sense-perception assisted by mental traces should identify the basis which endows those beliefs with the required justification? It appears indeed appropriate to agree to this suggestion. But now it emerges that the text is in all probability concerned with an issue that has been mentioned before: the question of epistemic entitlement. This is precisely the topic which JT dismissed as irrelevant.

In the light of the previously mentioned criterion of same-saying, according to which the probability of an interpretation is increased by the circumstance that a related thought or topic has been expressed or treated in some other source of the same tradition, it should be permitted to assert that the understanding of Praśastapāda's explanation of conditions of *trairūpya* according to which they relate to epistemic entitlement to suppose a universal implication between *probans* and *probandum* obtains support from the later tradition. To be sure, this criterion had been dismissed as invalid in the previous section. On the other hand, however, the maxim of supporting interpretations by instances of same-saying in an identical tradition of thought shares with many half-truths the property of possessing a sound core. The valid core consists in the fact that whenever identical propositions or topics appear in several places one can assume by default that a pertinent thought or issue either possesses objectively high relevance in the context of some subject matter or was at least generally considered as relevant in some tradition of thought. It is this circumstance which enhances the probability that a related tenet or aspect is a topic in some individual textual source and in this manner indirectly increases the probability of an interpretation which establishes a link to the pertinent thought or issue. An indispensable requirement is that the default inference resulting in the supposition of objective or widely assumed relevance is permissible in some individual instance. It appears hardly deniable that this condition *is* satisfied in the present case. The primary rationale for connecting the epistemic elements in the explication of *trairūpya* in the *Praśastapādabhāṣya* with the issue of epistemic entitlement lies in its possession of objective relevance in the context of inference and reasoning in general. This is a fact whose truth is completely independent of what is said or not said in other textual sources. The support which sources such as the *Nyāyalīlavatī* can provide is only secondary and indirect: If it is true that the *Nyāyalīlavatī* or other texts make the issue of epistemic entitlement for the supposition of universal propositions a topic this fact supports the hypothesis that epistemic entitlement is relevant in the context of inferential reasoning and that it was (at least implicitly) considered as such in the pertinent tradition of thought. It thereby justifies the application of the above mentioned default.

### VIII

In connection with universal propositions in general and universal regularities bestowing validity on *anumāna*-inferences in particular one must clearly differentiate between the following issues:

- (a) The verification of universal propositions/regularities
- (b) The knowledge of universal propositions/regularities
- (c) The assumption of universal propositions/regularities
- (d) The understanding of universal propositions/regularities

In the light of the present stage of discussion it appears that the cited passage of the *Nyāyalīlavatī* provides answers at best to issues of the category (c) and (d). Only confusion could induce one to believe that problems belonging to the classes (a) or (b) have also been settled by this. One might object that in the passage dealing with the apprehension of *pratibandha* Vallabha also gave an answer to the question as to how universal regularities are established as true. The difficulty is, however, that the answer which the text *would* present if it *were* understood as settling the issue of the verification of universal propositions is almost ridiculous. To avoid this consequence it appears mandatory to suppose that the discussion of the text concerns another problem. If one supposes that the thesis argued for is that the practice of human beings shows that they acknowledge some universal propositions as true and that they need to do this for a suitable rational justification of their behaviour the argument appearing in the text is in fact reasonable. But this does not imply that it is compelling. An obvious difficulty is that even animals are capable to behave in similar ways by appropriating or avoiding objects in accordance with their inherent qualities. But should one derive from this fact that they regard certain universal propositions, as for example ‘Each fire is capable of causing burning’, as true? To be sure, if one would give an affirmative answer then one would need to attribute to ‘regard as true’ an attenuated import. More specifically, one would have to disrupt the link between (c) and (d) by supposing that ‘assume’ or ‘regard as true’ in the pertinent sense does not entail a capacity to understand linguistic items, in particular sentences expressing universal propositions. On the other hand it could also be argued that the argument presented in the text establishes more than the existence of a mere intuitive and implicit capacity of recognizing regularities. It is in this connection that the ability of inferring facts like the occurrence of fire at some place from certain indicators, such as the presence of smoke in some region, attains relevance. After all, if a being, after perceiving smoke approaches a particular place with the intention to boil water with fire, his ‘apprehension’ of regularities must be essentially different from that of a being that instinctively runs away if a steppe fire breaks out.

It is not necessary to go into more details in this matter because the important fact that assuming universal propositions or regularities as true does not entail knowledge of their truth remains unaffected by them. Why is it mandatory to suppose that if somebody’s behaviour requires the assumption

of regularities on his part to be counted as rationally justified it equally requires knowledge of universal propositions? As far as one can see, there is no reading of the text available which could enable one to extract from it an argument for this contention. Why is it not permissible to derive from the reasoning presented in the *Nyāyālīlāvati* the conclusion that knowledge of universal propositions or universal regularities is not at all required for deriving propositions from known phenomena by inference and orientating one's behaviour by the results that are obtained by processes of inferential reasoning?<sup>47</sup> Why shouldn't it be legitimate to draw a sharp differentiation between states of knowledge of universal propositions and states of being epistemically entitled to regard them as true?

Now, in this place it could be argued as follows: 'In view of the existence of specimens of successful behaviour based on correct predictions, which is strongly suggested in the quoted textual passage, it appears reasonable to suppose that there are in fact universal regularities and accordingly some true universal propositions believed to be true by certain subjects of action. If the supposition that these subjects are epistemically entitled to regard those universal propositions as true is added to the pertinent premises one should be compelled to attribute knowledge of those propositions to the concerned subjects. For under the relevant assumptions it must hold good (a) that some universal propositions are true, (b) that those propositions are believed to be true by certain beings and (c) that those beings are in the possession of adequate grounds to consider them as true. Thus all the 'classical' requirements of knowledge are satisfied.' This argumentation might coerce one to admit that knowledge of universal propositions is possible. By its acknowledgement one should be obliged to concede that the reasoning presented in the quoted passage of the *Nyāyālīlāvati* indeed succeeds in establishing the possibility of knowledge of universal propositions. However, substantial problems remain.

1. The tenet that knowledge of universal propositions is possible and that such knowledge even occurs, in accordance with the hypothesized standard of 'knowledge', is compatible with the contention that all inferential reasoning is defeasible reasoning or reasoning by default. This tenet is not refuted by the concession about knowledge because the fact that some belief is a specimen of knowledge does not guarantee that this fact is known. On the basis of the assumed conception of knowing a universal proposition it can happen that for some universal proposition 'U' it is true

<sup>47</sup> Accordingly one could ascribe to somebody, NN, a knowledge of a proposition of the form 'Sp' and make an assertion to the effect 'NN knows that Sp' if

- (a) Sp ('Sp' is true)
- (b) NN knows that Hp
- (c) NN believes that  $(\forall x)(Hx \rightarrow Sx)$
- (d) NN is entitled to believe that  $(\forall x)(Hx \rightarrow Sx)$ .

It is not required, however, that

- (e) NN knows that  $(\forall x)(Hx \rightarrow Sx)$ .

- that NN knows that U and nobody knows that NN knows that U, even if there should be a lot of people knowing that NN believes that U (is true) and that NN is entitled to believe this. That must be possible at least if knowing that some belief in a universal proposition is a piece of knowledge presupposes that the concerned universal proposition is definitely established as true. Equivalently one could assert that the envisaged conception of knowledge of universal truths severs the link between (b) and (a) in the way that such truths could be known even if there were not a single universal proposition whose truth is established beyond doubt.
2. The argument in the *Nyāyalīlavatī* cannot prove that there is any knowledge of universal propositions at all. Given that no universal proposition or regularity believed at some time is exempted from the possibility of being falsified in the future the reasoning of the text can at most assure us of the fact that some regularities such as that between smoke and fire *might* be known. All propositions of the form  $(\forall x)(Hx \rightarrow Sx)$  believed to be true at any time and compatible with all experiences made so far are exposed to the above mentioned *upādhi*-threat, i.e. the circumstance that in view of an extended realm it turns out that only a proposition of the form  $(\forall x)(Fx \rightarrow (Hx \rightarrow Sx))$  is tenable. Or more cautiously, all propositions of that form with the exception of a special class are exposed to this danger. Accordingly Vallabha and his partisans would need to acknowledge the possibility that—if one leaves ‘Dharmīrti-cases’ out of account—the class of valid *anumāna*-inferences might be empty.
  3. The conceptual link between knowledge and epistemic entitlement makes knowledge sensitive to possible changes of standards induced by variances of context. The only criterion of epistemic entitlement which Vallabha allows us to extract from the text is perception of a finite number of objects all of which comply with a hypothesis of the form  $(\forall x)((Hx \rightarrow Sx))$ . Even if one would grant to the writer of the work the contention that the experience of perceptions of that sort provides epistemic entitlement it does not follow that this is the only possible type of entitlement. We cannot find traces of the slightest effort to explore alternative possibilities. As a matter of fact, perceptual support by observation of analogous and non-observation of contradicting cases is neither a sufficient nor a necessary requirement for epistemic entitlement in connection with universal propositions and regularities. In many contexts such a criterion is even pernicious.

As far as one can see, the attempted justification for the thesis that a *prati-bandha* is ‘apprehended’ does not contain anything which could be usefully employed for settling the question of the verification of universal propositions. That the quoted passage presents us with considerations which are relevant in related but different regards is another story. Inasmuch as Vallabha’s argumentation highlights the fact that rational beings are capable of possessing beliefs regarding universal propositions they possess also a bearing on the issue that understanding of sentences expressing universal propositions and grasp of universal thoughts is possible. The remarks to the effect that

generalities appear as connected with particulars *per se* and thereby with all particulars and that specific properties not involved in pertinent generalities are not included could be correlated with facts pertaining to the understanding of expressions such as ' $Hx \rightarrow Sx$ ' and of predicates in general. It must certainly be conceded that the sense of ' $Hx \rightarrow Sx$ ', if ' $Hx$ ' is interpreted as the predicate corresponding to the *probans* and ' $Sx$ ' as the predicate corresponding to the *probandum*, does not contain any implications concerning features of objects apart from those that are entailed by the pertinent predicates themselves. The same holds true for (monadic) predicates in general. In this regard it is possible to associate the remarks of the text with some sound core. It can equally be conceded that there is an intimate conceptual link between understanding a predicate and understanding a universal quantification involving that predicate. For, if some predicate-expression ' $\phi x$ ' is neither ambiguous nor vague understanding its sense involves a capability to recognize with respect to arbitrary objects whether ' $x$ ' is true of it or not. This capability is most immediately connected with the understanding of a predicate if it is a non-theoretical term pertaining to phenomenal qualities. Knowledge of conditions under which a predicate is true of arbitrary objects and knowledge of conditions under which a predicate is true of all objects must be intimately related since being true of all objects and being true of any arbitrary object are almost undistinguishable notions. As far as understanding is concerned the contention that grasping the content of a predicate term representing a universal regularity and grasping the content of a corresponding universal quantification go closely hand in hand can hardly be denied. But it is a clear mistake to derive from this that the grasp of the sense of an open sentence ' $Hx \rightarrow Sx$ ' involves a recognition of the truth of the corresponding universal quantification. The mistake is exactly analogous to the one which one would commit if, on the basis of an identification of a predicate with a function mapping objects to truth-values, one contends that the understanding of a predicate-term representing the predicate involves the knowledge of a function mapping objects to truth values. This is clearly illegitimate at least in the most natural reading of knowing a function. Given that a function, as a special sort of binary relation, is equivalent to a set of pairs of objects, say a particular and a truth-value, no function mapping some particular to some truth value can be (numerically) the same function as one that does not assign the same value to the same particular. But clearly understanding a predicate term (generally) does not involve a possession of a knowledge of a corresponding function if knowing a function means knowing which is the pertinent function because somebody who understands a predicate term usually does not possess a knowledge concerning all objects whether the predicate is true of them or not. Understanding can at most involve the possession of a criterion and a capability to decide against the background of information about particulars whether they satisfy the predicate or not. The case is completely analogous with respect to terms representing universal propositions. Here it is the difference between the capability to know what must be the case *if* the proposition were true and the ability to know *that* it is true which matters. We can



surely only speculate about all the possible facts and intuitions which could have induced the writer of the *Nyāyalīlāvātī* to connect the question of the ‘apprehension’ of a *pratibandha* with the vaguely formulated insinuation of a manifestation of all objects in connection with generalities. But one thing should be certain: If the possibility to verify universal propositions were deduced from the phenomenon that understanding general terms is intimately connected with the capability to know how things must stand if corresponding universal propositions are true, a capability involved in understanding universally quantified expressions, then the reasoning is definitely mistaken.

## IX

In the multifarious nature of the issue of the verification of universal propositions lies another reason why the passage of the *Nyāyalīlāvātī* leaves a number of pertinent questions unsettled. It needs only little reflection to recognize that one needs to notice some differences in this connection. A glimpse of the problems can be conveyed by looking at a few examples. Let us consider the following sentences:

- (1) All my teddy bears are on the sofa in the living room.
- (2) All the windows of my house are closed.
- (3) All the chips of my computer are made in Taiwan.
- (4) All pieces of metal expand if heated.
- (5) All legally married couples are more than 18 years old.
- (6) All even numbers greater than 2 equal the sum of two prime numbers.
- (7) All sugar maples are trees.

All those sentences have in common that they instantiate the schema ‘ $(\forall x)(Fx \rightarrow Gx)$ ’ (‘All F’s are G’ or ‘Every F is G’). On the other hand, it is easy to see that there are momentous differences between them under the aspect of verification and knowledge of the corresponding propositions. This holds true in particular with respect to the role which sense perception plays in the different cases.

(1) exemplifies a type of proposition which, in principle at least, can be ascertained as true ‘at a glance’ by one single optical sense perception. On the other hand, even in such cases ascription of knowledge requires additional ingredients. The most important factor coming into play if a sentence of the form ‘NN knows that P’ in its *opaque* reading can be correctly asserted is the one which enables knowledge to the effect that certain elements exhaust a pertinent domain.<sup>48</sup> In the present case the relevant requirement would be met by being acquainted with the complete group of all the small rascals designated by the subject term of the sentence, viz. ‘my teddy bears’. In this

<sup>48</sup> This is because the content of the proposition ‘All Ds are F’ exceeds the content of ‘ $a_1$  is F and ...  $a_m$  is F’ given that the objects  $a_1, \dots, a_m$  exhaust the domain of all Ds. For the fact that  $a_1, \dots, a_m$  exhaust the pertinent domain is not part of the content of ‘ $a_1$  is F and ...  $a_m$  is F’

manner remembrance and possibly previous analogous sense perceptions come into play as constituent factors of relevant background knowledge.

(2) is similar to (1) in a number of respects, but there is also a crucial divergence: A standard procedure of ascertaining whether (2) is true or not consists in a series of checks. In such cases it is not a single sense perception but a collection of sense perceptions which constitutes a basis of decision. Remembrance or recollection plays a part not merely in the form of a precondition for relevant background knowledge but in the context of the verification procedure itself.

(3) essentially differs from both (1) and (2). Hardly anybody would suppose that acts of perception constitute at least one standard manner of verifying or coming to know whether the proposition expressed by it is true. Linguistic communication is surely important in usual cases. Nevertheless, there is some conceptual link between the idea that (the proposition expressed by) (3) is true and the idea of ascertaining its truth by perception. A link can be established by the notion of what could be called 'idealized perception', the idea of perception which beings possessing perceptual capabilities transcending the abilities of (ordinary) men and possibly of all actually existing beings *could* have. Let us suppose that  $\Psi$  were a being who actually observes all movements of all the objects existing on the earth. Then it appears compelling to suppose that if (3) should be true then  $\Psi$  could verify its truth by perceptually trailing the spatio-temporal route which all the present constituent parts of my computer have covered since the time of their production. It deserves to be noted that *this* idea is *not* suggested in the above quoted passage of the *Nyāyātīlavātī*.

The sentences (4)–(7) do not concern domains which are surveyable at least in principle. Among all the examples (4) is the closest counterpart of the standard paradigm of the connection between occurrence of smoke and occurrence of fire. But some deviances are noteworthy. First the predicate of the sentence which would correspond to the *probandum* in an *anumāna*-inference relates to a disposition expressed by the conditional phrase 'expand if heated'. As a disposition is not a phenomenal property whose possession can be immediately ascertained by sense perception the model suggested in the passage of the *Nyāyātīlavātī* cannot be automatically applied. It can be surmised, nevertheless, that the writer of the text, if he had been confronted with such cases, would have referred to the possibility of observing correlations between processes of heating and expansion. The crux remains, however, that those observations cannot even in the *observed* cases establish an exemplification of the pertinent dispositional property without an inferential ingredient. For, if the occurrence of two types of events in a sequence is observed the existence of a causal connection does not follow with necessity. It is a fact which has been realized even in Indological studies that deducing causal dependence from temporal sequence is a fallacy. On the other hand, the example of (4) manifests that previous observations of allegedly analogous

cases possesses only secondary importance even with respect to epistemic entitlement. In the light of modern science one would support claims of (4) by referring to the theory of thermodynamics and the famous correlation between temperature and movement of molecules. Apparently the existence of a model enhancing the intelligibility and plausibility of laws and regularities contributes to the epistemic entitlement to regard them as valid, and if a theoretical model is well confirmed and established singular observations in specific realms, such as the realm of metals or other types of elements, can lose their primary importance.

In the case of (5) observation is relegated even more to the background. The decisive fact entitling one to consider the proposition as true is knowledge of pertinent laws stipulating what is legal and what is not legal in some domain and area. To be sure, without any sort of perception knowledge of legal facts is hardly attainable. It should, however, be pretty evident that the link between perception and knowledge concerning the truth or falsity of sentences like (5) induced by that dependence is fairly indirect. It blatantly diverges from what is suggested in sources like the *Nyāyalīlāvātī*.

Sentence (6) represents a formulation of a theorem which is designated by the term ‘Goldbach’s conjecture’ in current mathematical and philosophical parlance. The example is relevant in the present context for various reasons. On the one hand it is—according to what competent people profess—confirmed by a considerable number of examples and not (yet) disconfirmed by any example. This is an exact parallel of the situation encountered in the context of *anumāna*-inferences. On the other hand no mathematical proof has been found establishing its universal validity. What is worse, it is even unknown whether such proof exists at all (in principle). Given this state of uncertainty even the assumption that this theorem is definitely either true or false has been called into question. What matters most in the present connection is, however, the fact that a consensus exists concerning the proposition that at present nobody knows whether Goldbach’s conjecture is true or not true. This makes unmistakably evident that existence and possession of support by examples and non-existence of known instances refuting a claim is by no means always acknowledged as a situation verifying a universal proposition. It makes also plain that standards of knowledge are current demanding essentially more than accordance with observation—even if the term ‘observation’ were not restricted to types of objects accessible to sense-perception. Somebody declaring at a mathematical conference that he has ascertained the truth of Goldbach’s conjecture by a means akin to yogic perception as described in Jayantabhaṭṭa’s work would definitely make himself ridiculous. I do not think—and hope that JT could agree to this contention—that reluctance to accept such claims does not deserve to be dismissed as Western prejudice. It might be contended that mathematical truths are not a topic in the *Nyāyalīlāvātī* and other texts and that in principle room exists for deviant methods, criteria and standards of verification and knowledge in different areas. This is true. But in view of the fact that perceptual observations pertaining to a finite amount of objects turn out to be unsuited to yield a general basis for verification or

knowledge of all types of universal propositions the contention that they constitute a suitable basis in particular domains and with respect to particular types of propositions ceases to be compelling. Even as a specification of epistemic entitlement the stipulations of the *Nyāyātīlāvātī* appear fairly accidental.

In all examples discussed so far one can recognize a clear difference between understanding and knowledge of truth. It is evident that in all those cases somebody who understands the sentences (1)–(6) does not, by merely understanding them, know whether the propositions they express are true or not. Moreover, acts of understanding the sentences can be neatly separated from acts of ascertaining whether they represent true propositions. This sharply contrasts with features exhibited by the last example. It seems apparent that in the case of (7) acts of assessing the truth value of the proposition expressed by the sentence is not separated from the act of understanding it in the manner in which this holds true with respect to the preceding examples. Even in examples like (6) where truth or lack of truth is not a matter of contingent circumstances of the external world one can unmistakably recognize the momentous difference between the capability of grasping the content of a sentence formulating a universal proposition and the capability of ascertaining its truth in case it were true. In contrast to this, merely entertaining doubts about the question whether or not (7) expresses a truth indicates that its content has not been correctly recognized. If somebody regarding any arbitrary object is in a state of certainty about the fact that the pertinent object is an instance of the predicate ‘x is a sugar maple’ and simultaneously considers as possible that the same object is not an instance of the predicate ‘x is a tree’ he can only be considered as a person who either does not know what ‘sugar maple’ means or does not know what ‘tree’ means (in English) and who might not even know the meaning of any of those expressions. Given that knowing of any arbitrary object  $\mu$  that  $\mu$  is a sugar maple enables everybody who knows this to know that  $\mu$  is a tree without activating any further information concerning  $\mu$  and that the only possibly required addition of information is metalinguistic information about the meaning of linguistic items, one is entitled to stipulate as a rule that from any formula resulting by replacing the variable in ‘x is a sugar maple’ by a designation of an object, any singular term, a formula resulting by replacing the variable in ‘x is a tree’ by the same term, can be derived such that the set of assumptions on which the first formula depends, if it depends on any, is exactly the same as the one on which the second formula depends, if any. To be sure, this is not a familiar rule encountered in derivational systems of formal logic, but it would be a plausible ingredient in the framework of a theory which could be described as ‘conceptual content logic’. Let us employ the symbol ‘SMT’ to designate the pertinent rule of derivation writing at the left the number of the line to which the rule is applied. Now, in first order predicate logic there is a rule called ‘universal quantifier introduction’, abbreviated ‘UI’, which accounts for the following intuition: If from a supposition to the effect that an arbitrarily chosen object is something or the other a conclusion can be validly derived and this conclusion does not depend on *any* assumption

entailing that the pertinent object is something or the other then a corresponding universally quantified counterpart of the conclusion can be deduced which depends on all the assumptions on which the original conclusion depends but not on any additional assumptions. Now we are in a position to envisage the following derivation combining classical derivation rules with a rule of a possible logic of conceptual content:

(I)			
1	(1)	$\mu$ is a sugar maple	A
1	(2)	$\mu$ is a tree	1 SMT
	(3)	$\mu$ is a sugar maple $\rightarrow$ $\mu$ is a tree	1,2 CP
	(4)	$(x)(x$ is a sugar maple $\rightarrow x$ is a tree)	3 UI <sup>49</sup>

One can easily see that a universal proposition expressing that every sugar maple is a tree, that is, exactly the proposition expressed in example (7), has been derived as a conclusion which does not depend on any assumptions. If the derivation is valid we are allowed to say that the truth of (7) can be established without making any assumption about possible further characteristics of objects belonging to the categories of sugar maples or trees. As a matter of fact, no assumptions concerning the external world or any other world of objects are relevant. The establishment of the universal proposition requires, apart from ordinary rules of derivation, only ‘SMT’, which reflects only that which is inherent in a grasp of the concepts of a sugar maple and of a tree. On this account it can be affirmed that a mere grasp of the pertinent concepts or an understanding of linguistic expressions signifying them provides the epistemic entitlement to consider the proposition expressed in (7) as true and that possessing this entitlement amounts to the same as knowing its truth. Nothing more is needed for verification in this case.

The interesting point is that all the objections that have been raised before against the account presented in the quoted passage of the *Nyāyalīlavatī* lose their validity in connection with universal propositions of the type represented by (7). By transforming the *prima facie* obscure dictum that in or by generalities particulars *per se* or all particulars come into sight<sup>50</sup> to the theorem that

<sup>49</sup> Here Lemmon’s style of setting out formal arguments is adopted Lemmon’s (1965/1971). The lines of a derivation are numbered consecutively, ‘(1)’, ‘(2)’ etc. To the left of each line the numbers correlating to assumptions on which the formula of that line depends are registered, whenever there are such assumptions. Assumptions are premises not depending on any *other* premise in the derivation. To the right of each line symbols and numbers signal the rule justifying the appearance of the formula at that stage as well as the line(s) containing the premise(s) to which the rule has been applied. ‘CP’, abbreviating ‘conditional proof’, designates a rule allowing the derivation of a conditional possessing as antecedent a formula identical to an assumption on which a formula corresponding to the consequent depends (alone or among others). This conditional depends only on remaining assumptions, if any. The underlying intuition is plausible.

<sup>50</sup> Perhaps it is more than mere speculation to bring the occurrence of the expression *mātra* in the phrase *vyaktimātrasahajātīnīrbhāsāt*, which is also used in the sense of ‘merely’ but possesses here the force of a universal quantifier, in connection with the step leading from line 3 to line 4 in I). There also exist other means of expressing universal quantification in Sanskrit which are however unsuited to suggest the idea that the two ‘generalities’ corresponding to *probans* and *probandum* occur together in any arbitrarily chosen object about which nothing else is assumed.

understanding a general term involves an ability to recognize of any arbitrary object whether it falls under the general term or not and combining this with the theorem that certain general terms are related in such a manner that knowledge to the effect that everything falling under one of them must also fall under the other is implicit in understanding them without requiring any additional knowledge about particulars, we are enabled to recognize that the remarks encountered in the quoted passage of the *Nyāyalīlavatī* are *not* insufficient to validate the existence of knowledge concerning the truth of the universal proposition expressed in (7). The fault lies rather in bringing irrelevant ingredients into play, because in connection with the verification of propositions like (7) sense perception and ‘observations of positive and negative concomitance’ with examples has no essential role to play.<sup>51</sup>

It could be pointed out that sentence (7) is by no means the only specimen belonging to this category and that Vallabha’s account should therefore not be considered as defective for establishing knowledge pertaining to universal connections between certain objects such as fire and certain inherent qualities such as heat or the capacity to boil water etc. It might be argued that understanding ‘fire’ involves the knowledge that objects falling under this general term possess certain dispositional properties and that some causal dispositions relevant for practice belong to this category. There is no need to examine the correctness of this contention in detail. What matters is, that even if this way of looking at things should be permissible regarding the connection between kinds of objects and certain causal dispositions, it could not account for other cases falling within the scope of doctrines of *anumāna*-inferences, and the most prominent paradigm of inferring fire from smoke certainly resists such a treatment. The crucial flaw consists in the circumstance that the account of the *Nyāyalīlavatī* levels off the fundamental differences between different sorts of universal propositions. This is the most important reason for my contention that the problems of knowledge and verification of universal propositions have been inadequately treated in the Indian philosophical tradition. The example of Jayantabhaṭṭa’s theory cited by JT in his article could provide an excellent support for this thesis. In the final analysis the question of whether or not the idea of a perception ‘akin to yogic perception’ is realistic possesses relatively minor importance. More significant is the circumstance that possibly in the same manner as in the *Nyāyalīlavatī* different things are lumped together in such doctrines. The failure to account for the difference between universal propositions of the type exhibited by (7) and propositions of other categories cannot be explained or excused in the same manner as the failure to account for the peculiarities of propositions of the type of example (6). For (7) represents precisely the type of a most prominent example employed by the Buddhist philosopher Dharmakīrti some centuries before. There remains no other solution than saying that the later tradition—or at

<sup>51</sup> To be sure, it may hold good that general terms, such as ‘sugar maple’ or ‘tree’, are learnt (by a child) by confrontation with objects falling under those terms, but this is a completely different matter.

least a substantial part of it—has failed to do justice to an issue of its own heritage.<sup>52</sup>

We are now in a better position to assess also an important aspect of agreement as well as difference between Dharmakīrti's theory and a number of earlier doctrines. It appears appropriate to say that even before Dharmakīrti a number of theoreticians aimed at singling out conditions under which conditional propositions of the sort ' $H_p \rightarrow S_p$ ' ('If  $p$  is  $H$  then  $p$  is  $S$ '), where ' $p$ ' represents some 'substratum of inference' in the sense of the technical term *pakṣa*, ' $H$ ' a *probans* and ' $S$ ' a *probandum*, possess a maximal degree of objective probability. As a matter of fact, whenever a corresponding universally quantified proposition of the type ' $(x)(Hx \rightarrow Sx)$ ' ('All  $H$ 's are  $S$ ') is true then the objective probability of ' $H_p \rightarrow S_p$ ' must equal 1. In every 'world' in which ' $(x)(Hx \rightarrow Sx)$ ' holds good it *cannot* occur that both ' $H_p$ ' is true and ' $S_p$ ' is false because ' $H_p \rightarrow S_p$ ' follows by universal instantiation from the universal proposition. One can, for example, assert that *if* it were in fact true that every instance of smoke is also an instance of fire, then the occurrence of smoke in some particular instance  $I$  objectively necessitates the occurrence of fire in  $I$ , in other words, the probability that smoke is instantiated in  $I$  and fire is not instantiated in  $I$  equals 0 and accordingly the probability that if smoke is instantiated in  $I$ , then fire is instantiated in  $I$  equals 1. But it is equally pretty obvious that there is no sufficient basis for hypothesizing a corresponding epistemic certainty. The reason is that the mere actual truth of a universally quantified proposition, such as whenever smoke occurs fire occurs too, cannot guarantee that any being is ever entitled to be subjectively certain that it is true. Hence the circumstance that a corresponding conditional of the form ' $H_p \rightarrow S_p$ ' possesses an objective probability value that equals 1 does not warrant a parallel assignment of a maximum degree of epistemic probability. One can, however, plausibly assume that things stand differently with respect to certain samples accounted for in Dharmakīrti's theory. Isn't it a distinctive feature of conditionals, such as 'If  $p$  is a sugar maple then  $p$  is a tree' that they are both objectively and subjectively certain? If this is acknowledged, one could discern a point of agreement between Dharmakīrti's stance and that of a number of earlier doctrines inasmuch as they all account for cases in which an objective probability of a conditional of the form ' $H_p \rightarrow S_p$ ' equals 1 and that the distinctive feature of Dharmakīrti-cases consists in the circumstance that the assignment of a maximum degree of probability to a pertinent conditional

<sup>52</sup> The omission of overtly differentiating between different types of propositions with respect to their verification and ways of knowing correlates with the levelling out of the distinction between empirical defeasible and non-empirical non-defeasible forms of reasoning and with the marked tendency in Indian philosophy to pass off defeasible inferences under 'incomplete information' as reasoning of the same sort as derivation processes instantiating Dharmakīrti's examples. Presumably this is the main reason lying behind JT's (above mentioned) contention that deductively valid reasoning was the ideal or norm in Indian philosophy. Nevertheless, one must sharply distinguish between actual properties of a theory and doctrine and features imputed to it by their proponents. The phenomenon that facets of fallibility of inferential reasoning tended to be concealed in the Indian tradition of thought possesses interest in itself and could be the topic of a different study.

is justified *both* with respect to objective *and* epistemic probability. One must, however, cautiously resist the temptation to derive from the fact that both Dharmakīrti and presumably a number of earlier theoreticians aimed at filtering out cases and conditions allowing assignments of maximal values of some sort of objective probability to conditionals the conclusion that all those theories were theories of deductive reasoning. For even if it might hold good that it was a common concern of both Dharmakīrtian and a number of pre-Dharmakīrtian theories to specify conditions under which propositions of the form ‘Hp → Sp’ must exhibit a theoretically maximum degree of probability and to attribute validity to inferences in which the antecedent occurs as a premise and the consequent as a conclusion, it does not follow that according to the concerned doctrines exhibition of a maximal degree of probability on the part of conditionals constitutes also a *sufficient* condition of validity of correlating inferences. As a matter of fact, there is evidence to the effect that maximal probability of conditionals or the existence of some sort of necessitating link between premise and conclusion of inferences constituted merely a necessary but not a sufficient condition of validity. Conditionals of the form ‘Fp → Fp’ exhibit maximal degree of probability both in objective and epistemic regard. If therefore Dharmakīrti or theoreticians before him regarded a necessitating link between premise and conclusion as a sufficient condition of validity one should expect that they conceded acceptability to forms of reasoning in which premise and conclusion are identical. But, as far as one can see, precisely this is denied. How should one justify such denials under the perspective of an account of deductive reasoning?

The question of whether it holds true for Indian theories of inference in general that maximal degree of objective probability constituted a vital criterion of singling out some realm of most relevant forms of reasoning is a different topic which must be neatly distinguished from the issue discussed in the preceding paragraph. I am inclined to regard a number of passages in older textual sources, such as the *Śaṣṭitantra*, the *Vaiśeṣikasūtras* and (to some degree) the *Nyāyasūtra* s as indicating an outlook according to which inference was not tied up with maximal probability of conditionals in the above described manner. Ordinary inferences, such as inferring future occurrence of rain from accumulation of rain clouds, surely do not fit in that framework in view of the fact that a value of objective probability of the conditional ‘There are rain clouds → there will be rain’ would lie below 1. On the other hand, mere intuition suffices to establish that here in the same manner as in the case of smoke and fire any value of objective probability assignable to the conditional must be definitely higher than a corresponding probability value assignable to the consequent alone. This correlates with the notion that the truth of the antecedent proposition increases the probability of the truth of the consequent and that the probability of the existence of the situation described in the consequent clause of a corresponding conditional sentence is lower in general than its probability given the existence of a situation described by the antecedent clause. Hence the general idea of supporting suppositions by evidence could constitute a starting point for later doctrines of inference.



Against this background the fact—if it is a fact—that in a large number of doctrines only instances are relevant in which pertinent conditionals possess maximal degree of probability at least according to *some* variety of probability can be interpreted as the result of a development in which the admissibility standards of supporting evidence are put higher. One could provide quite plausible accounts for the occurrence of such developments. Anyhow, without the existence of a theoretical stance guided by the idea of maximal probability regarding conditionals of the form ‘ $H_p \rightarrow S_p$ ’, which is merely another facet of the notion of a necessitating link between *probans* and *probandum*, it would have hardly been possible for Dharmakīrti to suggest that his doctrine represents a continuation of a previous tradition and to integrate the different ingredients of his own theory of inference in a unified framework. For one can definitely not assert that in the peculiar Dharmakīrtian specimens of inference a conclusion possessing a relatively lower degree of epistemic probability is supported by evidence that exhibits a relatively higher degree of probability. Rather the order regarding epistemic probabilities is reversed in those cases. If, on the other hand, a specific causal like connection would exist, such as the one that can be expressed by saying that for all instances of smoke and fire it holds true that the former can only be caused by the latter, then and only then one may affirm that the occurrence of the first item objectively necessitates the other and that the objective probability of the conditional ‘ $H_p \rightarrow S_p$ ’ with reference to ‘possesses smoke’ and ‘possesses fire’ as *probans* and *probandum* respectively is maximal. Hence, notwithstanding differences in other regards, in some respect the situation equals the one in which from the premise that some particular object is a sugar maple one derives the proposition that it is a tree and similar cases.

One cannot but approve JT’s suggestion that it is worthwhile to study discussions about the problem of verification and knowledge of universal propositions in the literature after Dharmakīrti. On the other hand, however, his contention that the presentation in the *Studies on the Doctrine of Trairūpya* would have benefited from a consideration of those sources permits only the conclusion that at the time of writing his article JT was unaware of the complexities of the pertinent subject matter and the philosophical problems which it involves. For the preceding discussions should have made clear that an investigation of the treatment of universal propositions in the later literature carried through in the context of a study mainly devoted to a different subject is inappropriate and that the superficiality which such a manner of treating the topic almost inevitably entails can hardly be justified. This fact brings into relief a crucial predicament inhering in the approach to study sources of the Indian tradition of theoretical thought exclusively under historical aspects neglecting the objective problems of the pertinent subject matter. To be sure, there are historical questions for which this ignorance is immaterial. The assessment of chronological issues by way of identifying citations in certain textual sources from other textual sources does surely not require a thorough grasp of matters of content. On the other hand, issues of the organisation of projects of study, in particular questions about what needs

to be considered for the solution of problems and what should be preferably disregarded in some context of study as well as the proper identification of questions that are worth to be investigated demand a deeper penetration into theoretical topics. Shortcomings in this regard are also detrimental for the discourse between scholars.

## X

Till now not much has been said or implied concerning the relevance of most general features of natural languages and linguistic communication for academic discourse in Sanskrit studies. As a matter of fact, this area is too extensive and the matter too complex to allow for an exhaustive treatment in this context. Only one topic deserves a succinct discussion for two reasons. First, apart from possessing central importance for a theoretical account of what interpretation is and involves, it is also relevant for concerns pertaining to the practice of textual exegesis and translation. Second, in the previously discussed article of BK the issue is indirectly touched on in connection with questions of rendering textual sources in some target language. It is the topic of varieties or levels of understanding which is in the focus of the subsequent contemplations.

More than twenty years ago an article written by W. Künne has been published which is presumably unknown to most scholars in the field of Sanskrit studies. Although it is primarily a paper in philosophy it possesses importance in the present connection because it dedicates itself to the issue of different levels of understanding—corresponding to different possible senses of the term ‘understand’—and introduces a number of distinctions whose relevance is not confined to exegesis of philosophical texts.<sup>53</sup> The following exposition closely follows this article in as much as the distinction of varieties of understanding is concerned. Only one substantial addition or modification, which appears to possess vital importance in the present connection, will be made. A number of terms are newly created, but their content reflects differentiations that are made in Künne’s paper. The following list of six levels of understanding contains differences that are pertinent both for oral utterances and written documents:

- (1) Perceptual understanding
- (2) Linguistic understanding
- (3) Meaning-determining understanding
- (4) Propositional understanding
- (5) Pragmatic understanding
- (6) Modal understanding

<sup>53</sup> Künne (1985).

The level of (1) is ordinarily reached by identifying the types of linguistic items which a linguistic utterance—or textual passage—contains, if it contains such. Otherwise it could also consist in the correct identification of a pertinent series of phonemes or graphemes on the basis of acoustic or visual perceptions. Without going into finer details and possible differentiations within this category we can ascertain that the objective of textual criticism pertains to this level even if its methodology often refers to other levels of understanding in as much as such understanding is instrumental for realizing the primary aim. (2) can be equalled with a grasp of the ‘de-contextualized’ meaning of linguistic expressions or with the knowledge of the meaning of linguistic types. It could be roughly identified with that sort of understanding which a person is able to achieve with respect to linguistic expressions by virtue of knowing the language to which the pertinent expressions belong. This stands in contrast to (3), which requires the identification of the meaning that is relevant in some particular context or the meaning which can be characterized as the intended import, provided it can be derived by the application of linguistic, i.e. lexical, syntactic and compositional, rules of a language. The main paradigm of this level is disambiguation. Against the background of the famous example ‘Flying planes can be dangerous’ understanding of level (2) consists in the recognition of the fact that the sentence is ambiguous and the identification of the different imports corresponding to the different readings, whereas understanding of level (3) is reached by ascertaining which of the linguistically possible meanings a particular occurrence of this sentence possesses, leaving room for the acknowledgment of more than one relevant or intended import as a special case. (4) has been distinguished from (3) mainly because natural languages contain indexical elements. Sentences containing ‘I’, ‘now’, ‘today’, ‘here’ etc. convey imports that are relative to ‘external factors’, such as the identity of the speaker, time or place of utterance etc. Those components are evidently relevant for truth or lack of truth of what is said and questions or commands containing those ingredients demand divergent responses in accordance with the circumstances of utterance. Even understanding after disambiguation does not guarantee knowledge of those components. (5) relates, among others, to the grasp of what is often designated by the term ‘conversational implicature’. Surely, sentences such as ‘War is war’, ‘Money is money’, ‘Wine is not wine’ and many others usually—but not necessarily!—convey imports which are not equivalent to trivial tautologies or blatant contradictions. Such imports can often vary from context to context but are not strictly determined by contextual features. Knowledge required for understanding of levels (1)–(4) does not guarantee a proper identification of imports of this sort. The term ‘pragmatic’ accentuates the fact that the pertinent type of content has to be grasped by considering the *use* of a linguistic item in a context. Not seldom the most relevant consideration relates to the question of what could be the *point* of using a linguistic item in some particular connection. (6) is not meant to refer to variations of possible contents, in a broad sense of ‘content’, but to variations of divergent functions of utterances, in particular sorts of speech acts that can be performed by using a

particular linguistic item.<sup>54</sup> Also on this level both understanding and misunderstanding are possible as the example of the possibly inappropriate answer ‘Yes’ to an utterance of ‘Can you give me some sugar?’ shows. On the other hand, this level can equally comprise the appropriate recognition of all kinds of intended performative effects. In the example—cited in Künne’s article—of somebody’s saying to his servant ‘It is cold here’ triggering the inappropriate reply ‘Yes, indeed’, the speech act has been correctly identified as that of an assertion, and nothing else, but the intention accompanying the act of making the assertion, namely causing the servant to change the situation, has not been grasped or intentionally ignored.<sup>55</sup>

With the exception of (1) all the remaining varieties relate to possible varieties of sense as objects of understanding. Accordingly one can differentiate between (a) linguistic sense, (b) actual sense or applied linguistic sense, (c) propositional sense or thought (in G. Frege’s sense of the term), (d) pragmatic sense or pragmatically implied sense, (e) modal sense.<sup>56</sup> The account presented so far suggests that the way leading from level (2) to level (3) and from there to level (4) must consist in disambiguating a linguistic ambiguity, if there is one, and in a possibly further determination yielding a sort of understanding which enables one, in the case of interpretation of assertive utterances, to decide matters of truth or lack of truth. Moreover, it appears as if the knowledge obtained on level (3), whenever it consists in a correct identification of some intended import, enables an interpreter to ascertain the truth conditions of an assertion with the help of the correct ascertainment of contextual parameters such as identity of speaker, time and place of utterance and some others. This view is, however, untenable. Among other things the pervasive phenomenon of vagueness in natural language demands a rejection

<sup>54</sup> For this reason the order between (5) and (6) in Künne’s paper has been reversed here.

<sup>55</sup> Different levels of understanding could be correlated with different capabilities which are involved if somebody succeeds in understanding a linguistic message in various respects. The following abilities of competent speakers come into play:

- (1) The ability of (a) identifying phonetic or graphemic patterns on the basis of acoustic or visual perceptions and (b) recognizing linguistic types.
- (2) The ability to recognize varieties of import relative to possible co(n)texts.
- (3) The ability of employing information about situational context or cotext of discourse for determining meaning and the capability to ascertain semantic relations between linguistic tokens.
- (4) The ability to decide about matters of truth or falsity in view of relevant information.
- (5) The ability to recognize imports which the producer of an utterance intends to convey.
- (6) The ability to ascertain types of linguistic performance and intended communicative goals connected with them.

Though the application of abilities of higher levels often relies on applications of abilities pertaining to lower levels it would be a mistake to conclude that correct understanding on some level invariably necessitates proper understanding on all the preceding levels.

<sup>56</sup> In Künne’s paper the expressions (a)\* ‘linguistischer Sinn’, (b)\* ‘angewandter linguistischer Sinn’, (c)\* ‘propositionaler Sinn’, (d)\* ‘pragmatisch implizierter Sinn’, (e)\* ‘modaler Sinn’ are employed. Understanding of level (1) is referred to by the expression ‘perzeptiv verstehen’ (Künne 1985).

or at least a modification of that outlook. If a linguistic expression contains vague terms as components linguistic disambiguation and identification of contextual parameters do not suffice for an understanding allowing one to exactly demarcate a function mapping objects to truth values, in the case of a general term, or to exactly restrict truth conditions, in the case of sentences. What matters even more in the present connection is that identification of intended meaning does not permit an exact identification of propositional content. In a sentence, such as

(S1) Hindu kings were tolerant.

We are confronted with two important sources of vagueness. The first is constituted by the indeterminacy of the noun-phrase indicating that tolerance was, according to the speaker's opinion, a common characteristic of Hindu kings of the past, without, presumably, implying that this should hold true for all rulers without exception. However, the amount of permissible exceptions remains unclear and there is no compelling reason to suppose that a speaker of (S1) had some exact limit of permissibility 'in mind'. The other source of vagueness lies in the predicate 'tolerant'. It is not only the fact that 'x is tolerant' is a possible predicate of divergent types of entities, such as persons, groups of persons, behaviour and attitudes of persons, doctrines and teachings etc. which induces different varieties of being tolerant. More decisive in the present connection is the circumstance that the predicate 'is tolerant' itself is vague in more than one respect: First there is vagueness with respect to the measure of what can count as being tolerant; this feature 'tolerant' shares with other terms, such as 'tall', 'green', 'bald' etc. Second there is vagueness or indeterminacy with respect to the dimension such as being tolerant in political, or religious or other matters. Third there is vagueness with respect to differences of type, such as being tolerant in practice or being tolerant in theory or being tolerant in both regards. Fourth there is vagueness with respect to implication, such as being tolerant implying the view that different items, e.g. religions, possess the same value or whether some items possess less value than others but can be tolerated as inferior means finally leading to the same goal etc. Regarding an utterance of (S1) it is fairly realistic to assume that contextual factors could enable an interpreter to dissolve some issues of vagueness, for example, vagueness of dimension and to ascertain that (S1) should be interpreted in the sense of

(S1)<sup>E</sup> Hindu kings were tolerant in matters of religion.

But it should be easy to see that by this specification the overwhelming amount of indeterminacy remains unsettled. It is the fact that, due to the phenomenon of vagueness, even a fully appropriate account of what the producer of a linguistic utterance intended to convey does not inevitably yield a form of understanding allowing for an exact identification of propositional content which makes mandatory to envisage a plurality of alternatives if

understanding of level (4) is aspired to. Precisely this is the reason why in the context of the explication of epistemic readings of *trairūpya* in the *Praśas-tapādabhāṣya* a number of alternatives were envisaged. Presumably JT was not the only one who was puzzled by this phenomenon. The decisive point is that vagueness is not merely a feature of natural language but also a characteristic of linguistic usage and can be a quality of linguistic types as well as of linguistic tokens. There might be no compelling need to reject the model of the six stages or varieties of understanding on account of the existence of vagueness, but a modification is definitely called for. A possible way of adapting it to pertinent needs is to modify the category of meaning-determining understanding in two respects: (1) Meaning-determination is not necessarily disambiguation but comprises also other sorts of determinations of intended imports in accordance with what is licensed by linguistic meaning. The specification of (S1) by (S1)<sup>E</sup> provides a pertinent example. (2) Meaning-determination is not strictly tied up with something that is intended by the producer of a linguistic item. Hence there is room for determinations of propositional content using linguistic meaning but not speaker's intention as a criterion imposing restrictions on permissible alternatives. This type would be exemplified by specifications going beyond (S1)<sup>E</sup> under the assumed premises. The explication of epistemic conditions of *trairūpya* or different interpretational alternatives in connection with the above discussed passage of the *Nyāyalīlavatī* could furnish other pertinent examples.<sup>57</sup>

The above explicated varieties of understanding possess obvious relevance for questions of translation inasmuch as rendering of the content of a source language in a target language has to reflect the understanding of the translating interpreter whenever the translation process is not purely mechanical. But even in cases of mechanical translations the pertinent criterion of adequacy is whether or not the rendering in the target language *could* be the outcome of an interpreter who has properly grasped the content of the translated linguistic items. The question poses itself what *sort* of content a translation could or should reflect because it has emerged that there is more than one variety of content. In view of the central role of linguistic understanding and linguistic meaning suggested by the previous considerations the

<sup>57</sup> Vagueness of terms is not the only factor obstructing the possibility to attribute to disambiguated linguistic expressions a uniquely determined propositional content relative to some particular context. Sentences containing anaphorically employed pronouns usually require considerations pertaining to the possible reasonability of saying something or the other to enable an interpreter to ascertain a sort of import to which truth values are unambiguously assignable at least in principle or to make justified decisions about probabilities of interpretations in this regard against the background of facts provided by the co(n)text. Judgments about a presumably intended anaphoric reference do not (necessarily) imply acts of disambiguation because one cannot reasonably assume that pronouns possess as many possible linguistic meanings as possible referents or that their meaning deviates in accordance with variations of intended reference in the manner of possible variations of meaning of lexically equivocal linguistic types. On the other hand, in contrast to vague general terms, anaphorically used pronouns usually convey definite imports relative to assignments of reference. If sentences containing them exhibit vagueness of import even on the hypothesis of particular assignments of reference to those pronouns this is mainly due to other constituents occurring in the concerned sentences.

answer that preservation of linguistic meaning is a legitimate aim for translations seems *prima facie* plausible.

Remarkably precisely this stance is rejected by BK in the previously mentioned article. Kellner (1997, p. 383) finds fault with a way of rendering alternative linguistically possible imports of expressions of a source language separated by a dash erecting the demand that one must instead carefully examine ‘the pragmatic, syntactic and semantic foundations of individual expressions or phrases’. Although I find it difficult to connect the talk of pragmatic or other types of foundations of linguistic expressions with a clear sense it appears in view of the context probable that BK aims at saying that a translation should take into account both the syntactic and semantic properties and the pragmatic circumstances of the use of occurring linguistic items (tokens) and render them accordingly. As far as consideration of syntactic and semantic properties are concerned there is no disagreement because the method of rendering expressions by various alternatives separated by a slash was designed precisely for the purpose of making syntactic and semantic features which expression possess in virtue of their linguistic meaning as transparent as possible. Accordingly one must obviously suppose that BK erects a demand to the effect that translations should render varieties of sense which correlate with the levels (3)–(6). After all, only under this premise it becomes intelligible that pragmatic considerations possess relevance. Seen against this background, BK’s contention turns out to be pretty odd.

Usually a rendering of the German sentence

(S2)<sub>G</sub> Krieg is Krieg.

by the English sentence

(S2)<sub>E</sub> War is war.

is regarded as completely appropriate, although there is not the slightest doubt about the fact that (S2)<sub>E</sub> does not represent anything of the pragmatically implied content of (S2)<sub>G</sub> if (an occurrence of) the latter possesses such an import. Moreover, one should think that an English rendering of

(S3)<sub>G</sub> Ich bin hier.

by

(S3)<sub>E</sub> I am here.

is absolutely in order although (S3)<sub>E</sub> does not manifest the propositional content of (any occurrence of) (S3)<sub>G</sub>. Is it really BK’s intention to postulate that an interpreter or a philologist is obliged to render a token of (S3)<sub>G</sub> uttered by Frederick William II in Potsdam by

(S3)<sub>F</sub> Frederick William II is in Potsdam.

Now it might be objected that (S2)<sub>E</sub> and (S3)<sub>E</sub> are acceptable translations because tokens of those sentences used in some context make it possible to retrieve the relevant pragmatically implied or propositional contents. But precisely this objection destroys the basis for the contention that under all circumstances translations need to render the applied linguistic sense or whatever type of content might correlate with a level of understanding lying between level (2) and level (4). There remains as the only plausible demand the postulate that inasmuch as imports lying beyond level (2) are retrievable with respect to the original they must be equally retrievable for anybody who uses a translation. The crux of the matter lies in the circumstance that only *this* is justified and not the thesis that all sorts of imports lying beyond level (2) must be retrievable *by* a translation. Whenever a context is provided by accompanying explanations or other means making all pertinent imports apparent the demand that their existence must be retrievable from a translation itself is invalid. One could under such circumstances at best argue that making senses corresponding to higher orders of understanding apparent *in* a translation is a most suitable means under certain circumstances. On the other hand it can be hardly denied that it is not an optimal method under all circumstances because not seldom the fact is highly important that the assumption of imports lying beyond linguistic meaning represent merely a hypothesis of the interpreter. Whenever this fact is relevant it deserves to be made transparent and for precisely this reason mere insinuation by a translation is entirely inappropriate.

BK seems to advocate the contrary position because she writes: ‘This fuzziness in translation can only be justified when the meaning of the textual passages in question is not important for the interpretation....’<sup>58</sup> First of all, the talk of ‘fuzziness in translation’ indicates a complete ignorance of the fact that being a linguistic meaning and being fuzzy are entirely different things. A mathematical theorem might be expressed in a way that its exact import can be grasped from its mere linguistic meaning. But this does not render the meaning of the expression stating the theorem fuzzy. Obviously a confusion between fuzziness and indeterminacy besets BK’s view. It has been shown before that propositional content is often underdetermined both by linguistic meaning and contextually applied linguistic sense. As, on the other hand, a fully explicit rendering of propositional content is usually inappropriate for a translation if it happens that not even the applied or contextually actual senses of items to be translated determine that import, it can be presumed that BK’s verdict about the permissibility of ‘fuzziness’ implies in the final analysis the illegitimacy of translating texts or utterances at all. Moreover, as far as

<sup>58</sup> I find it extremely difficult to understand the continuation which reads: ‘.... in the first place, when the actual statement in its historical context is lifted onto an abstract philosophical plane, where parameters are set by the mind of the interpreter rather than by the evidence at hand’. Usually one would think that literacy of rendering a textual source does *not* lift something to another plane. Even more mysterious appears the contention that this plane is an ‘abstract philosophical one’ and that ‘parameters are set’ by the mind of an interpreter rather than by evidence.



indeterminateness is concerned, I think that just the opposite position than that which BK suggests is justified. Precisely in cases in which the meaning of a textual passage is (not not) important making the unavoidably hypothetical nature of understanding going beyond level (2) transparent can become mandatory. The relevance of a clear separation between linguistic meaning and other types of content is directly proportional to the importance of an interpreted item and not vice versa.

There are reasons to represent linguistic meaning as faithful as possible in translations. If the ingredient of content that is based on linguistic, i.e. lexical, syntactic and compositional, conventions and rules alone is clearly represented the danger of confusing this component with other types of information conveyed by linguistic items can be effectively reduced. Most significant is the fact that the more hypothetical nature inhering in the attribution of types of sense corresponding to higher levels of understanding can be made transparent in this way. This in its turn possesses eminent importance for textual exegesis due to the 'holistic' nature of this enterprise. It regularly happens that the correctness of an interpretation of a textual passage  $t_0$  needs to be assessed among other things against the background of other passages  $t_{1-m}$ . If hypothetical ingredients of the interpretation of those latter passages are mingled with those which are less hypothetical a proper assessment of the legitimate possibilities of understanding  $t_0$  can be completely thwarted. Such confusion is responsible for the occurrence of invalid arguments in scholarly debates claiming that some way of understanding  $t_0$  is mandatory based on prejudiced interpretations of  $t_{1-m}$ . On the other hand, neglect of the fact that a particular way of understanding  $t_0$  can make particular ways of readings of  $t_{1-m}$  mandatory can easily lead to internal inconsistencies of interpretation.<sup>59</sup> Only if linguistic meaning is clearly recognizable the danger can be averted that fatal prejudice of understanding remains unnoticed. This circumstance is of special importance for the exegesis of Sanskrit sources because the usual conciseness of the style in which those texts are written entails an unusual degree of ambiguity, vagueness and under-determination of non-literal meaning.

The nowadays widely accepted convention of using round and square brackets for explanations and additions respectively can be put down to the rationale that different levels of understanding should be made explicit. A similar supposition could be made concerning the 'golden rule of translation', which in German reads 'So wörtlich wie möglich und so frei wie nötig' ('As literal as possible and as free as necessary'). It is, as a rule, not unreasonable to postulate that translations should preserve linguistic synonymy. Notwithstanding the circumstance that 'synonymy' is itself a vague notion calling for alternative explications it seems possible to explicate and justify varieties of synonymy that are on the one hand less restrictive than intensional

<sup>59</sup> These dangers are by no means merely hypothetical. I have myself experienced objections of the described invalid sort. On the other hand I committed, to my knowledge at least once, the mistake of generating an internal inconsistency by combining a novel interpretation of some textual passage with a traditional reading of another passage. Only after publication did I detect the mistake and the way to dissolve the inconsistency.

isomorphism and on the other hand more constrained than identity of intension as explicated by Carnap. There is no need to go into further details in this matter because merely the fact is important that preservation of linguistic meaning is a reasonable way of understanding synonymy and that the postulate that translations should aspire to pair synonymous linguistic items at least on the sentence level and if possible also on levels lying below the level of entire sentences is sensible.<sup>60</sup>

It is true, as indirectly suggested by the preceding sentence, that preservation of linguistic meaning on sub-sentential levels is not always feasible, or if preservation is attempted, odd and unfamiliar outcomes could result. On the other hand, experiences in courses on Indian philosophy with students not acquainted with the language of the textual sources have shown that many current translations are pretty unsuited in this connection precisely because they do not reveal the limits imposed by rules and conventions of the language on the acceptability of interpretations. The fact that Sanskrit does not possess the same difference between definite and indefinite noun-phrases as English, German and many other European languages is not necessarily known to non-specialists. This is a major reason why I sometimes employ expressions of the form 'the/a X' intending to signal even to non-specialists that in the original such a difference is not made explicit. Although it is true that the distinction between definite and indefinite noun-phrases is often inconsequential for questions of interpretation one can also point out cases in which that difference is extremely important. Anyhow, the question of whether or not BK's contentions about the appropriateness of ways of rendering textual passages are mistaken is less decisive than the fact that issues are concerned that do not deserve to be treated in a sweeping manner. The matter of levels of understanding and varieties of interpretation as well as the connection between issues of understanding and translation appear significant both in theoretical and practical regards. In this respect it can be conceded that BK's article has touched on important topics. But precisely this circumstance makes it all the more deplorable if relevant questions are treated in a negligent manner.

In the domain of linguistic items that are relatable to other linguistic items one can distinguish between at least three fundamental types of 'semantic enrichment' involved in the understanding of utterances as well as in the interpretation of inscriptions whose difference is not reflected in the common practice of signaling supplemented elements by square brackets. First there are cases that can be most plausibly regarded as forms of expression involving linguistic ellipsis which is to be accounted for by grammatical rules of

<sup>60</sup> The existence of a pre-theoretic intuition to the effect that translations should satisfy the standard of synonymy or of some relation stricter than identity of propositional content is indicated by the circumstance that it would be considered odd if in a situation of simultaneous translation an interpreter would render occurrences of the pronoun 'I' occurring in the original by the pronoun 'he' accompanied by a gesture directed towards the speaker whose utterances are translated. Not merely the identity of thought, but also preservation of the 'aspect under which a thought is presented' appears to be regarded as essential in this connection.

particular natural languages. It appears most natural to explain e.g. the ambiguity exhibited by the sentence

(S4) The suitcases of Peter and Sandra weigh more than 20 kg.

by assuming that one of those readings, but not the other, is due to the circumstance that the pertinent sentence is a form of expression derived from another form of expression in which a conjunctive connects sentential phrases, such as

(S4') The suitcase of Peter weighs more than 20 kg and the suitcase of Sandra weighs more than 20 kg.

and which results from omission of one of two identical verb-phrases plus some ensuing transformations. In certain cases features of surface structure indicate omissions and thereby suggest that occurring formulations are the result of grammatical processes. One can presume, for example, that in Hindi-Urdu the feminine form of the adjective in

(S5) *Jī hām, baṛī haim* = Yes [they] are big

if (S5) occurs as a reply in the co(n)text of, say

(S5)<sub>Q</sub> *kitābem kaisī haim; kyā ve baṛī haim* = How are the books; are they big?

should be regarded as the outcome of the fact that the pertinent form of expression results by omission of a noun, such as *kitābem*, from some 'more explicit' variant.<sup>61</sup> Those forms of linguistic ellipsis are, however, specific for particular natural languages. Some languages like Hindi-Urdu and—to an even greater extent Modern Chinese—permit ellipsis of subject noun-phrases whereas others do not. As far as understanding and interpretation are concerned, semantic enrichment is based on retrieval of more complete forms of expression as outputs from less complete inputs so that rules of linguistic reduction that constitute grammatical features of individual natural languages license to relate pertinent linguistic structures to others. The idiosyncratic properties of an individual co(n)text determine the most appropriate implementation of the interpretation rule as far as the retrieval of particular lexical items are concerned. The present type of semantic enrichment would exhibit a considerable degree of 'systematicity' if one admits that both the grammatical and the corresponding interpretation rules might be outcomes of generalizations relying on linguistic theoretical concepts and considerations. If, for example, (S5) were replaced by

(S6) *Jī hām, dilcasp haim* = Yes they are interesting

<sup>61</sup> The present example is adapted from a passage appearing in Snell and Weightman (1989, p. 29).

one is bereft of the possibility to directly derive the hypothesis of grammatical ellipsis from the phenomenon of gender. For *dilcasp* as well as a great number of other adjectives in Hindi-Urdu do not exhibit any overt gender distinction. But this circumstance is not a compelling obstacle against employing linguistic facts observable regarding sentences like (S5) as a basis for hypothesizing a corresponding more comprehensive rule of grammatical ellipsis with respect to all expressions of some linguistic category, such as adjectives. There is, on the other hand, no need to view grammatical rules of this sort as merely theoretical constructions. Rather they reflect at least possible psychological facts about ways in which speakers encode and decode linguistic messages. Under those premises aspects of systematicity come into play in various ways. On the one hand, from the viewpoint of a producer of utterances or inscriptions rules of a language system are exploited for linguistic encoding so that from the viewpoint of a recipient hypotheses of interpretation can be acquired under the presupposition that pertinent grammatical rules have been exploited. On the other hand, processes of interpretation or exegesis could themselves be modeled as systematic performances: First encountered linguistic forms are mapped into different linguistic forms and second the outcomes of such projections are interpreted in accordance with compositional properties.<sup>62</sup>

Retrieval of linguistic elements by ‘reversal’ of ellipsis based on grammatical transformations cannot exhaust the whole pertinent realm. It is well attested that in Modern Chinese the import of expressions such as

<sup>62</sup> This in itself does not involve a claim to the effect that forms of expression that are ‘retrieved’ or ‘projected’ *must* always be identical to actually existing expressions of a pertinent natural language. In Modern Chinese there are sentences, such as

[A]他昨天打网球的时候跌倒了 (*tā zuótiān dǎ wǎngqiú de shíhòu diēdǎole*) = ‘He yesterday play tennis GEN time fall down ASPECT-COMPLETION’ = When he played tennis yesterday [he] fell down.

Now, it has been stated that whenever in conditional, temporal or concessive clauses a subject is explicitly mentioned it *cannot* appear (again) in the corresponding main clause (Cp. Liu Mau-t sai 1964, p. 22: ‘Wenn in Konditional-, Temporal- und Konzessivsätzen ein Subjekt vorhanden ist, dann darf dasselbe nicht im Hauptsatz erscheinen’). According to a most natural interpretation of such statements a sentence like [A] exhibits a grammatically imposed ellipsis so that it could be considered as a derivation from a more replete but uncommon formulation in which in the main clause a term referring to the subject corresponding to the verb-phrase explicitly appears. This is, intuitively at least, very plausible. Apparently on a lower syntactic level a similar phenomenon is exhibited by certain numerical expressions in Vietnamese. A syntagma such as

[B] *hai nghìn rưỡi* = ‘two thousand one-half’ = 2500

contains as its last element a unit which is commonly regarded as a word that, appearing after numerals designating round figures, such as ‘one-hundred’, ‘one-thousand’ etc., denotes a value equivalent to that of the preceding unit plus the half (of the pertinent amount), as for instance *trăm rưỡi* = ‘hundred one-half’ = 150 or *một vạn rưỡi* = ‘one ten-thousand one-half’ = 15,000 etc. In those cases values of numerical expressions containing *rưỡi* comply with an intuitive rule of interpretation according to which ‘X *rưỡi*’ is equivalent to ‘X plus the half of that (= X)’. However, neither the multiplication of two with 1,500 nor the addition of 2,000 plus 1000 equals the number 2,500, which is the value actually designated by *hai nghìn rưỡi*. If, on the other hand, one interprets the

(P1) 三块五(*sānkuài wǔ*) = ‘three-dollar/yuan-five’ = three dollar/yuan fifty

differs from the meaning one might *prima facie* expect in view of the compositional properties of those formulations. The fact that one could correctly *translate* the above cited expression into English by ‘three dollars and fifty cents’ or ‘three yuan and fifty fen’ does not provide a plausible reason to assume either that the expression *wǔ* sometimes acquires the sense of ‘fifty’ or that the Chinese language possesses a grammatical rule according to which a numeral in the sense of ‘ten’ can be omitted. To be sure, omission is presumably involved in cases of the presently considered sort. (P1) is equivalent to forms of expressions, such as

(P2) 三块五角 (*sānkuài wǔjiǎo*) or 三块五毛 (*sānkuài wǔmáo*)

which might be rendered by, say, ‘three dollars and five [units of] 1/10 dollar’ or ‘three yuan and five jiao’ or ‘three yuan and five mao’. However, the hypothesis of a grammatical rule licensing the omission of the lexical items *jiǎo* and *máo* in combination with the supposition that this rule as a feature of the Chinese language should explain the relevant facts appears pretty awkward. The convention represented by expressions of the sort of (P1) reflects a social fact of a community of speakers. We might suppose that because of the monetary system prevalent in the community in which some language such as Mandarin Chinese is spoken a convention is established which refers to monetary units in terms of whole units, tenths of those units as well as tenths

<sup>62</sup> Footnote 62 continued

relevant expression as a ‘contraction’ of a formulation that is to be (re-)constructed by ‘copying’ the element immediately preceding *ruòi*, the actual semantic value becomes computable as an outcome of forming the sum of the value designated by *hai nghìn* and the value denoted by *ngìn ruòi* in compliance with compositional features and in accordance with general principles of forming numerical expressions in the Vietnamese language. Hence the intuitive rule of interpreting expressions of the ‘underlying’ form ‘X Y Y *ruòi*’ amounts to ‘X multiplied by Y plus the half of Y’ permitting interpretations of expressions of the form ‘Y Y *ruòi*’ in the sense of ‘one Y plus the half of Y’ as special cases. By generalizing the hypothesized principles one can correctly predict the values of other analogous expressions, such as the cardinal number 3500 as the value of *ba nghìn ruòi* = ‘three thousand one-half’ etc. Nevertheless, this view entails no commitment to the effect that syntagmas such as *\*hai nghìn nghìn ruòi* should actually exist in the language as alternative linguistic forms signifying the same value and, strictly speaking, it need not even imply that forms like that have occurred in the preceding history of the language. In Tibetan repetition of terms denoting cardinal numbers is a means to express ‘distributive numbers’, such as *drug drug* = ‘six six’ = ‘every six’. However in the case of complex (higher) numbers only the last unit is repeated, e.g. *sum cu rtsa gñis gñis* = ‘thirty-two two’ = every 32 (Cp. Hahn (1996, p. 199; § 18.9). Rule guided forms of ellipsis where deleted elements are retrievable by copying overt constituents appear to play an important role across languages that contribute to economy and effectiveness of linguistic communication. Undoubtedly not all varieties of linguistic compression are reducible to this type. Nominal compounds, for example, cannot be accounted for in this way. One might be tempted to object that the view suggested here permits the attribution of (compositionally derived) meanings to expressions that do not actually exist in a natural language. But is this a valid objection? Shouldn’t we rather suppose that (some amount of) competence to interpret grammatically deviant expressions is an indispensable ingredient of the ability to interpret correct linguistic forms?

of tenths of units. To be sure, the fact that the order of elements proceeds successively from higher to lower units could be regarded as a reflection of a grammatical feature of the (system of numerical expressions of the) language. But even if this were true it does not follow that the implementation of this relation in the realm of expressions for monetary values must correspond to a grammatical rule. Hence there is no compelling reason to disclaim that some sorts of exegetical semantic enrichment possess ingredients which are neither based on grammatical properties of individual natural languages nor on universal pragmatic principles such as conversational relevance, but rather rely on non-universal or idiosyncratic, but nevertheless non-grammatical conventions.<sup>63</sup>

The preceding two types must be distinguished from a third category that relates to possibly universal principles. It comes, among others, into play in the interpretation of utterances or inscriptions of literally odd sentences like the following (adaptation of a famous example):

(S7) The sandwich wants to pay.

Given that the verb ‘want’ as well as the verb-phrase ‘want to pay’ are not used in a transferred sense and should relate to some animate subject one can retrieve as a probable import some proposition that could be represented by a sentence of the form ‘The X who  $\Phi$  sandwich wants to pay’. No grammatical rule or—like in the preceding example—firmly established usage can be invoked for the determination of the exact (intended) import, however. Grammatical rules and common conventions alone are compatible with a host of diverging ways of understanding among which the interpretations represented by

(S8) The client who ordered the sandwich wants to pay.

(S9) The guest who looks like a sandwich wants to pay.

represent merely two possibilities within a much larger class of alternatives. It is legitimate to presume that under certain circumstances even a complete knowledge of all facts relating to grammatical properties of the language, of all conventions of using expressions as well as of all objective co(n)textual features apart from the actual intentions of a speaker would not suffice to definitely settle all issues of interpretation. Sometimes different things could

<sup>63</sup> One might advocate the position that the operation of mapping expressions of the type of (P1) to expressions of type (P2) generates results that are interpretable in accordance with the principle of compositionality which in a common non-technical formulation reads:

The meaning of a complex expression is determined by the meanings of its parts and the mode of composition.

The vital point is, however, that if the view suggested above is adequate compositionality cannot be based on linguistic rules in the strict sense of the term alone.

be reasonably said in some particular situation so that considerations referring to reasonability and relevance could not fully determine the matter even if they or their underlying principles should be universally applicable and valid.

With respect to all examples of the preceding paragraph it has been tacitly supposed that non-literal imports which might be retrieved or re-constructed from occurring linguistic items are determinate to such a degree that they can be represented by particular paraphrases in some natural language. There is not only no compelling reason to suppose that this assumption is always justified but even evidence exists that sometimes such supposition is definitely false. Not only imports suggested by metaphorical usages but also (conversational) implicatures induced by utterances of literally tautological or contradictory sentences, as for instance

(S10) Children are children.

are not seldom such that they cannot be adequately captured by specific linguistic formulations. In the case of (S10) for example the primary intention associated with its employment need not be the expression of a specific (true or false) proposition but rather the production of certain effects, such as the adoption of some or the other sort of tolerant attitude towards children on the part of an addressee. Hence the existence of a determinate linguistic meaning is compatible with the lack of a definite propositional import conveyed in the form of some implicature. Precisely because of the indeterminacy as far as any propositional content is concerned it can be unsuitable to equate the non-literal import(s) with a particular true or false thought expressed by some sentence. For this reason renderings of sentences in other languages that preserve merely a literal linguistic significance are sometimes not only legitimate but even most appropriate.

Strictly speaking, BK's contentions presuppose the stance that linguistic rules and conventions in combination with features of situational and textual context determine content in so far as it matters for textual exegesis. It is precisely that tenet which I call into question affirming that varieties of content possessing utmost significance are underdetermined by linguistic rules and context.<sup>64</sup> On the basis of this proposition I assert that even in the framework of exegeses of a most ordinary sort aiming at identifying communicative goals connected with (the utterance of) sentences or textual passages, in particular assessing what some producer of a linguistic item intended to say, an interpreter is obliged to employ considerations pertaining to plausibility of content as a criterion for evaluating content-ascriptions. In the case

<sup>64</sup> A counterpart of this tenet is the thesis that some sort of exegetical content exists which is not determined by the meanings of linguistic constituents and their mode of composition. It deserves to be pointed out that the pertinent contention does not militate against the theorem of linguistic compositionality because it does not entail a denial of the proposition that some (other) sort of linguistic content exists which agrees with the compositionality-principle.

of philosophical texts and other theoretical works this means that, in addition to matters of linguistic rules and conventions as well as matters of textual, situational and historical context, an exegetist needs to refer to the issue of the theoretical plausibility of the tenets, views or doctrines which his interpretations entail as a means of controlling the legitimacy of ascriptions of content. The present contention contrasts with a view which admits or even advocates in the context of investigating Indian philosophies a clear separation between historical studies dealing with matters of the history of thought (of 'Geistesgeschichte') on the one hand and issues of philosophical criticism on the other. My objection against the stance that history of philosophy is entitled to neglect questions of philosophical criticism is that although such ignorance is sometimes harmless in practice and need not invalidate particular results it is fundamentally mistaken in principle. Considerations pertaining to theoretical plausibility or adequateness yield a vital dimension in which the correctness of content ascriptions must be examined because of the underdeterminateness of content by linguistic conventions and context.<sup>65</sup>

It appears that considerations pertaining to what is (more or less) reasonable to say in a particular co(n)text play a central role for deciding issues of semantic indeterminacy in different linguistic communities, in various kinds of discourse and in diverse respects which still need to be explored. In this connection it is apposite to quote a passage relating to the (frequent) omission of linguistic elements in a book dedicated to a description of grammatical features of (Mandarin) Chinese. There it is said:

'In written or spoken passages, omissions of previous references are similarly possible, because the reader or listener is able to make sense of the material on the basis of contextual/cotextual evidence'. This claim is illustrated by the following example:

<sup>65</sup> It would be a gross mistake to believe that the claims made here would be refuted by the mere fact that some variety of relativism concerning rationality might be true. First, the maxims propagated above do not entail that we impose our standards of rationality and plausibility on foreign subjects and cultures but merely that we *control* our ascriptions of content to utterances or inscriptions by considerations relating to rationality and plausibility. Second, a methodology which critically assesses ascriptions of beliefs against the background of whether or not adoptions of such beliefs would be reasonable given other beliefs and other attitudes we know (or believe to know) foreign subjects to possess cannot be sweepingly equated with a procedure allowing others to possess only beliefs which *we* regard as plausible. Third, the proposition that our standards of ascribing rationality can sometimes fail because reasonability of having or not having certain propositional or other attitudes are assignable only relative to whole systems of beliefs and attitudes might represent a *theoretical* possibility. It does not follow from this, however, that they must fail in particular instances, such as the practice of philosophizing or other theoretical activities in India. Here an additional argument would be needed to vindicate corresponding claims. Cases of incommensurability that might be possible in principle must not always exist in reality. To be sure, more can be said on those issues, but it should be legitimate if we abstain from going into further details here.



**Wǒ yòng Zhōngwén xiěle yī piān wénzhāng gěi wǒ lǎoshī kàn, shuō kàn hòu, qǐng zhǐzhèng, jīnhòu kěyǐ chóngxiě.**

(*lit.* I use Chinese write asp(ect) one m(easure)w(ord) essay give my teacher look, say look after, please correct, afterwards can re-write)

I wrote an essay in Chinese and gave [it] to my teacher to look at, saying that after [s/he] had seen [it] could [s/he] please correct [it], (so that) afterwards [I] could re-write [it].

Commenting on the passage the authors of the book say: ‘The seven bracketed pronouns in the translation are not present in the Chinese original. Such omissions are possible because the speaker/writer is confident that the passage is intelligible on the basis of contextual/cotextual evidence’ (Yip Po-Ching and Don Rimmington (1997, p. 142, §23.4.1).

Those remarks suggest that a possible source of the impossibility to resolve indeterminacies in particular cases lies in the circumstance that a speaker’s or writer’s confidence to the effect that a relevant message is ‘intelligible on the basis of contextual/cotextual evidence’ can be mistaken. But are erroneous assumptions in this regard the only source? The following consideration shows that the matter is not as simple as that. Let us suppose that Alfred utters the sentence:

(A) Mary has promised to visit me after the exam.

It is easy to see that the uttered sentence exhibits two different readings that can be explicated by the following paraphrases:

(A<sub>1</sub>) Mary has promised to visit me after her exam.

(A<sub>2</sub>) Mary has promised to visit me after my exam.

Now let us assume that when Alfred uttered (A) he had in fact a particular reading, say that of (A<sub>2</sub>), ‘in mind’ and let us even suppose that the context of utterance contains sufficient clues that make in principle possible to infer this intention. However Kurt, who hears about the fact that Alfred has uttered (A) intends to convey this information to others without having previously settled the issue of the correct reading of (A) and possibly without having even noticed that (A) can be interpreted in the two different ways represented by (A<sub>1</sub>) and (A<sub>2</sub>). He nevertheless makes the following assertion:

(B) Alfred said that Mary has promised to visit him after the exam.

Now let us imagine that Donald hears Kurt’s utterance of (B). He has also previously heard that Alfred once waited after his exam for a visit on the part of a person called ‘Mary’. This induces him to make the following statement:

(C) Kurt has asserted that Alfred said that Mary has promised to visit him after his exam.

Should we say that Donald has made a correct statement about what Kurt said? As a matter of fact, when Kurt uttered (B) he merely ‘echoed’ the original statement made by Alfred without ever envisaging any decision between the readings represented by (A<sub>1</sub>) and (A<sub>2</sub>). Accordingly the content of his, i.e. Kurt’s, assertion can be characterized by the following formulation:

- (B′) Alfred said *something* which can be expressed (under a relatively neutral perspective) by the sentence: ‘Mary has promised to visit Alfred after the exam’.

Although (C) is more definite as far as the import of Kurt’s assertion is concerned and even if Donald’s formulation might involve a correct representation of what Alfred intended to say it represents a distortion of the import of (B). Hence a ‘historically orientated’ report can be most inappropriate. In the present case the indeterminacy does not pertain to the literal or linguistic meaning, but is rather an objective feature of (B) as it is actually used. This distinguishes it from the particular ingredient of indeterminacy exhibited by the previously quoted Chinese example which has motivated the authors to employ ‘[s/he]’ as a device of expression in the explanation. One could imagine that the message of (B) had been encoded in one of the languages which employ possessive pronouns that involve no gender distinction. If one introduced a corresponding neutral pronoun, say ‘his\*’, as a new term in the English language one could render the content of the statement by a translation, such as

- (B)\* Alfred said that Mary has promised to visit him after his\* exam.

and represent an import akin to that of (C) by

- (C)\* Kurt has asserted that Alfred said that Mary has promised to visit him after his\* exam.

This conveys a more faithful report of the content of (B). Using ‘his/her’ instead of ‘his\*’ would only be an alternative means for the same purpose avoiding the introduction of new lexical items in the target language. Here it does not signal lack of knowledge but an objective fact about the actual import.

Possibly BK’s position conforms to a common outlook which tacitly presupposes the tenet that all relevant content is determined by linguistic conventions and context (in some broad sense of those terms). At the beginning of the present article the relevance of deliberately looking for interpretations which could render statements made by others true or most reasonable was highlighted. The phenomenon of omitting to raise questions of this kind is presumably an indirect reflection of a misguided general stance. In the present study it should not be mandatory to discuss this issue in more detail. It should suffice to point out the illegitimacy of taking the correctness of that attitude simply for granted and that deeper reflections are appropriate in this regard.

The principal objective of the preceding investigations and discussions was to bestow plausibility on two contentions, viz. (1) that understanding of the subject matter dealt with in textual sources is not marginal for research in Indian philosophies and (2) that understanding of the nature of linguistic communication and understanding is relevant even in the framework of historically orientated philological studies. Even if those theses had been sometimes accepted before, it is appropriate to try to recognize with more clarity why they are true, if they are, and to realize the extent to which it is important to acknowledge their truth both in theory and in practice.

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