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The two - membered syllogism

Discussion in Indian literature of the formal structure of a syllogism is notwithstanding its purely academic appearance one of the most important means of insight into Indian methods of thinking and of literary expression. It has resulted in a fairly strict division of logico-philosophical activities — particularly in mediaeval Buddhism — into two categories, that of the purely mental operation (*kalpanā*, *avacanātmaka*), and that of verbal expression (*śabda*, *vacanātmaka*). The verbal statement is only a reproduction of the mental operation which is by its nature unexpressible (*abhilāpa-apoḍha*). The utterance is a matter of a mere physical effort, the process of cognition having been accomplished in the sensuous or mental 'sphere' of the person, in the form of *pratyakṣa* or *anumāna* respectively.

The communicative value of the word is to be cleared of all mental superstructure. It is to be an adequate means of cognition in that the person instructed gains from verbal communication as much as he would do by direct contact with the object of the communication; the name, being a perfect replica of the object, is to rouse in the listener's mental and psychological constitution a similar reaction to that roused by the object itself. Hence the fundamental distinction between the (*svārtha*-) *anumāna* and its pedagogically formulated offshoot, the *parārtha-anumāna* or *sādhana*¹⁾.

¹⁾ Cf. Dharmottara's commentary on *Nyāyabindu*, p. 18, 4: *parārthānumānam śabdātmakam, svārthānumānam tu jñānātmakam*, and ib., p. 37, 18—20, where the subject of communicating knowledge for instructive purposes is discussed.

Although Stcherbatsky says²⁾ that the division into *svārtha*- and *parārtha-anumāna* is traceable in the Vaiśeṣika system, I cannot find much proof for that statement unless *Prāśastapāda* is also included in the scheme. But *Prāśastapāda*'s and, later on, Śāṅkaramiśra's division into two categories is undoubtedly influenced by Buddhist logicians and is thus of Buddhist origin. I should therefore rather abide by Stcherbatsky's original idea, as expressed some years before³⁾, that »...this style is in perfect agreement with the Buddhist theory of the word (*apoha*). Introduced much later into literature it is unquestionably of Buddhist origin«⁴⁾. Faddeson's remark⁵⁾ that »the distinction made by *Prāśastapāda* and Dignāga between *svārthānumāna* and *parārthānumāna* is merely a combination of the doctrines taught in the Vaiśeṣika and Nyāyadarśanas« loses its substance, if we accept Stcherbatsky's and Randle's contentions that *Prāśastapāda* was later than Dignāga. Śāṅkaramiśra's *Upaskāra*, which certainly was not written before the early XVIIth century, follows the then generally accepted rule that *anumānam* is *dvividham*⁶⁾. A very remarkable thing is that the same division is made in the short treatise *Nyāyāvatāra* by Siddhasena Divākara, the Jaina logician, who was probably junior contemporary of Dignāga or flourished soon after him⁷⁾.

This would mean that the concepts of *svārtha* and *parārtha* fell on fertile ground, which, though psychologically prepared for the distinction, needed Dignāga's genius to submit them to proper definitions and formulations. The psychological disposition for the reception of these concepts in the Nyāya-Vaiśeṣika systems was to be found in the interpretation of the *savikalpaka-pratyakṣa* which has also been challenged by Dignāga's thesis

²⁾ *Buddhist Logic* II (Leningrad 1930), p. 47 n.

³⁾ Le Muséon, Nouv. Sér., vol. V, 1904.

⁴⁾ The translation is mine.

⁵⁾ *The Vaiśeṣika System*, Amsterdam 1918, p. 323.

⁶⁾ *Upaskāra* to *Vaiśeṣika Sūtra* 9, 9, 2.

⁷⁾ Jacobi's suggestion in his *Introduction to Samaraiccatkāhā* that Siddhasena lived in the 7th century and knew Dharmakīrti has been superseded by Suali, *Introduzione*, p. 38, and by Vidyābhūṣaṇa, *Indian Logic*, p. 174.

pratyakṣam kalpanāpoḍham. But even the *Nyāyasūtra*⁸⁾ defines perception as inexpressible (*avyapadeśya*), non-contradictory (*avyabhicāri*) and determined (*vyavasāya-ātmaka* = *savikalpaka* (?)). Although the attribute of being indetermined — unless we try to force upon the notion of inexpressibility the meaning of indetermination — is apparently missing, the *Nyāyasūtra*'s definition might be reconciled with Vatsyāyana's concept of the *nirvikalpaka*- and *savikalpaka-pratyakṣa*, which was brought later to its fuller significance by Vācaspati Miśra. But this is just the point. Vācaspati Miśra, who discusses the problem in detail in the *Nyāyavārttikatātparyatikā*⁹⁾ is, as it were, overwhelmed by the flood of logical and metaphysical objections poured upon him by the Buddhists, and in his diplomatic retreat admits the psychological shortcomings of *savikalpaka*, but maintains it as logical necessity. He realizes that the Buddhists did well to embody all the components of the *savikalpaka-pratyakṣa* in the *anumāna*. Udyotakara (p. 40) also defends this point by including *manas* in the *indriyas* and thus complying with the *indriyasannikarṣatva*¹⁰⁾ of the perception. In this way he avoided encroaching upon the mental sphere and compromised by leaving perception to the sphere of sensuous cognizance.

It is to be remembered that *parārthānumāna* means an inference for another person as well as by another person. In this way either species is to be considered at the same time in its subjective and its objective aspect as far as its epistemological function is concerned. The speaker, i. e. the subject of communication, is the source of cognition for the listener; the subject-matter of the proof is imprinted on the former's mind in the form of an image^{10a)}. The listener, however, who is the *parārtha* of the *parārthānumāna*, is also the subject of cognition for whom the speaker's word (*śabda*) is an incentive to the mental reconstruction (*samāropa*) of the empirical phenomenon conveyed to

⁸⁾ I, 1, 4.

⁹⁾ Particularly 91 ff.; cf. also Stecherbatsky, *Buddhist Logic* II, p. 276 ff.

¹⁰⁾ The definition in *Nyāyasūtra* I, 1, 4: *indriya-artha-sannikarṣa-utpannam jñānam avyapadeśyam avyabhicāri vyavasāya-ātmakam pratyakṣam*. Cf. also Ruben, *Nyāyasūtra*, p. 2.

^{10a)} Cf. Manoratha's commentary to *Pramāṇavārttika* II, 2.

him only by name. The first aspect does not offer any particular difficulty as long as it is accepted as *pramāṇa*, i. e. as a recognized means of communicating the inferred knowledge. The second aspect, however, raises some other doubts beside that of its recognition as *pramāṇa*. It touches upon the more general problem — which is of the utmost importance, especially for Buddhism — of the validity of speech and the possibility of teaching or learning by means of words¹¹). As the acceptance or refutation of this value of the word is the acceptance or refutation of Buddhism as a valid doctrine, no wonder that the Buddhist philosophers discussed at such great length this crucial question. The subject was found particularly appealing by the Vijñānavādins¹²).

The gradual reduction of the members (*avayava*) in a syllogism, whatever metaphysical or ontological reasons (some adopted *ex post*) there may be, is marked by an undoubted tendency to simplify and formalize the syllogism so as to eschew a) any psychological element in the formulation and b) any repetition (*punarvacana*) of items that another member may express or implicitly contain. So the five members of the pre-Siddhasena ten-membered syllogism have been abandoned even by the Jainists, as they contained elements such as doubt, desire to know, dispelling doubt etc.¹³). There remain the five standardized members

¹¹) An interesting discussion on the subject will be found in the *Tattvasaṅgraha*, 1463—1467.

¹²) Cf. Dharmakīrti's *Pramāṇavārttika* and Manoratha's commentary (R. Sāṅkṛtyāyana's edition in JBORS II, p. 4). It may be correct that *Nyāyabindu* in its discussion on the *pratyakṣa* was following the Sautrāntika view on the matter (cf. Mallavādin's *Nyāyabinduṭīkāṭippaṇi*, p. 19, 10 in Stcherbatsky's edition, also Stcherbatsky, *Buddhist Logic* II, p. 35 n., and Das Gupta, *A History of Indian Philosophy* I, p. 151 n.), but the Vijñānavāda view in Dharmakīrti's exposition of the imprint of the external object on the human mind, and the possibility of its conveyance to another person is obvious. Mallavādin's remark ...*sautrāntika-mata-anusāreṇa-ācāryeṇa* seems to refer to Dignāga (*ācārya*) as the originator of Dharmakīrti's concept.

¹³) Information on these members is given by Vātsyāyana, *Nyāyabhāṣya* 1, 1, 32. Cf. also Vidyābhūṣaṇa, *Indian Logic*, p. 121, and A. B. Keith, *Indian Logic and Atomism*, p. 86.

such as *pratijñā* (thesis, proposition), *hetu* (argument), *drṣṭānta* (instance, rule), *upanaya* (application) and *nigamana* (conclusion), which actually the Buddhists were the first to attack as systematically doubtful. An exhaustive account of all the vicissitudes of the syllogism in India is, of course, impossible in this short outline, and would require a separate monograph. Even in single philosophical schools opinion on the number of members in a syllogism varied. As an illustration of this treatises by Dignāga, Dharmakīrti, Śāntarakṣita, Ratnakīrti etc. may be mentioned. But also within other schools opinions seem to have varied. And so according to Varadarāja's *Tārikakarakṣā* the Mīmāṃsā syllogism consisted of three members (*pratijñā*, *hetu*, *drṣṭānta*). Śaṅkara, however, analysing *Gauḍapāda-kārikā* II, 4, finds there the *pratijñā*, *hetu*, *drṣṭānta*, *hetūpanaya* and *nigamana*; the *kārikā* in question does not mention explicitly the names of the members, nor is it obviously formulated in the spirit of the orthodox logical rules, and therefore Śaṅkara's analysis suggests that he himself is inclined to maintain the old Nyāya principle of a five-membered syllogism.

In his *Nyāyamukha* and *Pramāṇasamuccaya* Dignāga seems to have entered on logical concepts, the ground for which had been prepared before him. So little is known of the problem of proof before Dignāga that only a few guesses attempting to reconstruct the train of thought may be ventured. The only member of a syllogism that, with very few exceptions, has never been questioned, is the *hetu*. For various reasons the *pratijñā* as well as *drṣṭānta*, *upanaya* and *nigamana* were submitted to criticism and revision. The decision to purge the verbal instruction of all redundant elements led to the exclusion from a syllogism of all those members the functions of which were superseded by the function of another member. Thus *nigamana* went, which (according to some) was a mere repetition of *pratijñā*, and thus *upanaya* went, which was only a pedagogical indication of the qualities of the correct *hetu*. It was apparently Nāgārjuna who first noticed the redundancy of these members, and gave a stimulus to a thorough revision of the verbal instruction. If we can rely on information from uncertain Chinese sources, Vasubandhu used two types of syllogism consisting of three and five mem-

bers respectively¹⁴). As will be seen later, when Pārśvadeva's view on the two-membered syllogism is discussed, a new item creeps into the process of »inference for another«: Strict co-operation of the person to be instructed is required. The functions that were to be discharged by the respective, and now no longer verbally expressed, members of the syllogism, were to be performed in the mind of the listener. On the other hand, it is the practical purpose of the syllogism and not its rigidly academic structure that is to be borne in mind by the speaker at the time of instruction¹⁵). In this way the Buddhist logicians have the merit of freeing the syllogism from its proverbial rigidity and from its purely academic purport, in spite of the fact that they imposed on it even stricter formalization than it had before.

There was a good deal of argument following the abolition of the *upanaya* and *nigamana*; it was a surprise, however, when the Buddhists questioned the authority of the *pratijñā*, denouncing it as unessential and superfluous. This contention roused protests from the mightiest representatives of the Naiyāyikas, Vaiśeṣikas and the syncretist schools. The main objection was: In a syllogism (or as we might put it, in an implication 'if (a)p then (a)q' as in '(x)p then (x)q'¹⁶), (a)p(= *hetu*) must fulfil the condition of *pakṣādharmitva*, i.e. must be a recognized (*siddha*) predication for both functors in (a)q. In other words both statements »the mountain is smoky« and »the mountain is fiery«

¹⁴) Cf. Vidyābhūṣaṇa, *Indian Logic*, p. 269. Cf. also Randle, *Fragments from Dignāga*, p. 27 n.

¹⁵) Cf. Kamalaśīla's commentary on Śāntarakṣita's *Anumāna-parīkṣā* 1435: »If you say to a soldier (tib. *gnag. rdzi* = shepherd) who does not know the usage of the *anvayavyatireka* »where there is smoke there is fire« then he will realize the *sapakṣa* and *vipakṣa* though you stated only thus much and no more; he will also, not knowing other terms, come to the correct conclusion that there is fire in this particular place. *Question*: when then do you use the term *sapakṣa* etc.? *Answer*: In a formal and theoretical analysis (*śāstra*)«.

¹⁶) According to Chinese sources it was Vasubandhu who disposed of the last two members, which would be a reasonably strong argument against accepting his authorship of the *Tarka-śāstra* where five members are maintained; cf. Tucci, *Pre-Diṅnāga Buddhist Texts on Logic from Chinese Sources*, p. IX.

must be both separately and jointly correct. On the other hand, this statement $(a)p$ is not true unless $(a)q$ is true and thus the correctness of the *hetu* is verified by the statement of the *pratijñā*¹⁷). If the *pratijñā* is gone there is no instance to verify the correctness of the *hetu*, viz. its *pakṣadharmatva*, and so the whole syllogism is invalid and is no proof at all. Furthermore, it is silly to prove something without informing your audience what you are going to prove. The statement 'if $(x)p$ then $(x)q$ ' or (if you like) 'if not $(x)p$ then not $(x)q$ ' (= *sādharmya*- and *vaidharmya-drṣṭāntas*) is also an instance for verification of the *hetu* provided a *sapakṣa* and not *vipakṣa* (homogeneous and not heterogeneous) example with (a) is substituted for (x) . And so when in the *drṣṭānta* a term homogeneous with (a) is substituted for (x) in either $(x)p$ or $(x)q$, the *drṣṭānta* must give a true statement; if a term heterogeneous from (a) is substituted for (x) in either $(x)p$ or $(x)q$, the *drṣṭānta* must give a false statement. But since *sapakṣa* or *vipakṣa* are the linking elements between the *pratijñā*, and *drṣṭānta*, the *pratijñā* must be there¹⁸).

Dignāga's opinion on this point is given in the *Nyāyapraveśa* more clearly than in any other work. The controversy as to the

¹⁷) In both my *Probleme* and *Overlooked Type of Inference* (BSOS 1942) I tried to prove that an Indian syllogism cannot be analyzed satisfactorily by Aristotelian methods because no inclusion of names is intended to be proved, but only facts stated in sentences. I therefore substitute here $(a)p$ for »the mountain is smoky«, and $(a)q$ for »the mountain is fiery«. By (a) is meant that the fact proved refers to this (and no other) particular mountain. (x) indicates any possible object that could replace »mountain« provided it is predicable by p or q . Whenever relations between the major, middle and minor terms are to be established, I shall use the Sanskrit equivalent for the term, as an Indian syllogism is not a sentence-calculus *par excellence*, but its anticipation only.

¹⁸) Strange as it may seem to a Western logician, this was a generally observed rule in Indian logic. It is important, however, to keep in mind that an Indian syllogism construed in the form of implication does not entirely cover our postulates of an implication, because the condition for any statement »if p then q « in India is the causal relationship between the protasis and apodosis. There are, though, some exceptions even here, but lack of space prevents me from discussing this in this paper.

authorship of this excellent and lucid treatise is not quite settled; the wording of the definitions would however advocate the acceptance of Śāṅkarasvāmin's authorship. But whoever the actual author was, the work is undoubtedly inspired by Dignāga's doctrines. On p. 110 of his *Buddhist Logic*, vol. II, Stcherbatsky says that »Dignāga in his reform has dropped thesis, conclusion etc.«. Though true in its main outline this statement requires some modification especially in regard to the entire abolition of the thesis by Dignāga. And the following may be concluded from the logical works of Dignāga, which are known to us wholly or in fragments, viz. the *Nyāyamukha*, *Pramāṇasamuccaya*. (Nor must the *Nyāyapraveśakārikā* be left unmentioned).

First of all, Dignāga's criticism of the *pratijñā* as defined by the Naiyāyikas (*sādhyanirdeśaḥ pratijñā*) which Dignāga corrects by adding *eva*¹⁹) in the *P. S.*, stresses the fallacy in the statement of the proposition and the consecutive logico-formal fallacies, but replaces *pratijñā* by *pakṣa*. The shifting of this term is of considerable importance in so far as it removes the difficulty of stating the thesis before it has actually been proved by a recognized *hetu* and *dṛṣṭānta*. Since, as the Naiyāyikas say, the *pratijñā* has the value of an informative enunciation of what is to be proved, it is no member of the proof, as proving and not anticipating is the task of a syllogism. *Pakṣa* is a member of the proof and not merely a declaration of it. Thus *nigamana* is unnecessary, for *pakṣa* fulfils those two functions that were previously incorrectly assigned to the *pratijñā* and its affirmation (within the proof) *nigamana*. Thus, it was not so much the employment of the *pratijñā* that Dignāga took exception to, but the Naiyāyikas' inconsistency between the definition and the application of the *pratijñā*. Yet, there is, no doubt, a great deal of confusion in Dignāga's concept of *pakṣa*. From Dharmakīrti's criticism it appears that Dignāga considered *pakṣavacana* (not *pakṣa*) as *asādhana*²⁰), that is, a functor whose statement in the proof did not contribute to the correctness of the proof. The three-aspect argument (*trirūpahetu*) was quite sufficient for that purpose. Yet,

¹⁹) Cf. also Stcherbatsky, *Buddhist Logic* II, p. 155 n. 1.

²⁰) *Pramāṇavārttika* IV, 25 and IV, 16 ff.

why did Dignāga go through all the trouble of defining the *pakṣa* and discuss it so broadly? — asks Dharmakīrti²¹).

The answer is »*gamyārthatve 'pi sādhyokter asammohāya*, i. e. (adding Manoratha's explanatory notes to the *kārikā*) the description of the *pakṣa* is given, for the statement of the *pakṣa* has the capacity of making clear the subject-matter of the proof and also of removing any obscurity as to the fact, which is to be proved«. The *caturlakṣaṇam* (viz. *sādhya*) in the next line makes it clear that one ought to know according to what *siddhānta*, i. e. tenets of a particular school of thought, the proof is formulated. Coming back to the *Nyāyapraveśa*, let us add to the above description the definition of *sādhana* as given by the *Nyāyapraveśa*. In the latter no abolition of the *pakṣavacana* is recommended but, on the contrary, the 10th *kārikā* says *anityaḥ śabda iti pakṣavacanam... etāny eva trayo 'vayavā ity ucyante*. In the light of these excerpts the following re-establishment of Dignāga's view on the two-membered syllogism seems to be possible:

The universal proposition in the *drṣṭānta* »if $(x)p$ then $(x)q$, and $(a)p$ (= *hetu*) (then $(a)q$ (= *sādhya*)« is sufficient and its application to the $(a)q$ is just a matter of redundant expression. Its omission or inclusion does not affect the validity of the syllogism. It is a matter of purely mental operation, which, if you are dealing with reasonable and logically trained people, need not be pressed home. It is just an omission and not a deficiency in a syllogism, as Dharmakīrti ironically remarks²²), alluding to the Naiyāyikas and their definition of a defective syllogism (*nyūna*) in *Nyāyasūtra* 5, 2, 12. The best explanation of the matter is given in Śāntarakṣita's *Anumānaparīkṣā* (see supra), where it is said that in academic discussions where one can never be too accurate, the whole scholastic equipment is to be precisely applied, but in everyday-life one need not be punctilious or professorial. This statement by Śāntarakṣita is not to be underestimated in view of the fact that in his days of scholastic disputes and hair-splitting subtleties a correct verbal formulation was decisive for the opponent's victory or defeat.

An adequate and brilliant exposition of Dignāga's concept

²¹) *Pramānavārttika* IV, 23.

²²) *Pramānavārttika* IV, 23.

of the *pakṣa* is given by the commentators of the *Nyāyapraveśa*. On Śaṅkarasvāmin's definition of the *sādhana* being *pakṣādivacanāni sādhanam*, Haribhadra comments that *pakṣādi*²³ is a bahuvrīhi, and substitutes *upalakṣita* for *ādi*. This ingenious interpretation, however far from the author's intention it may be, offers perhaps the best solution to the problem of the *pakṣa*. From it it follows that the *pakṣa* may not be expressed but is implied by the *hetu* and *drṣṭānta*, and all verifications, as is suggested by Pārśvadeva's commentary, are to be performed mentally by the process of *upanaya*. Thus we have another case of the reduction of two members of a syllogism to mere psychological functions, and the clearing of the verbal instruction from those operations which are to be performed in the mind only. Both *pakṣa* and *upanaya*, as may be realized, are accepted by Pārśvadeva, but their functions are those of silent co-operation between the instructor and the person instructed.

To conclude, we might say that in spite of the great variety of his theories and opinions, the mediaeval Buddhist logician has not given a final formula for the construction of a syllogism. Yet the discussions are marked by a clear tendency towards simplification and formalization of the syllogism. Nevertheless refinement and subtlety in the approach to the problems on the one hand, and the constant vigilance against a potential opponent, on the other hand, were more of a handicap than an advantage to a Buddhist philosopher. Not even Dignāga or Dharmakīrti or Śāntarakṣita achieved a solution which would enable the reader to pin down the problem finally. Dharmakīrti is prepared to abandon the *drṣṭānta* on the ground that inductive knowledge which leads to the realization of certain general relations is good for an inference for oneself; but in instructing others the deductive universal proposition suffices to lead to singular conclusions. Immediately, however, this subtle thinker corrects this too rigid theory by adding that a *drṣṭānta*, though not essential, might serve as a good criterion for the veracity of the universal proposition²³. (By *drṣṭānta* is of course meant here the

²³ Cf. *Nyāyabindu* 122, where the *drṣṭānta* is treated separately from the universal proposition.

example only, without the universal proposition). Śāntarakṣita, who generally supports in his views Dignāga rather than Dharmakīrti, is willing to accept the view that the proposition (*pakṣa*) is superfluous, but insists on *drṣṭānta* being maintained²⁴).

For Śāntarakṣita the *pratijñā* is also an outsider, a mere exhortation (*pratijñā* = *abhyānujñā*)²⁵ to formulate a proof, but is not a member of a syllogism.

The *prima facie* metaphysical reasons which, as a matter of fact, are reduced to no more than logico-formal ones, make Ratnākara reject the *drṣṭānta* in his *Antarvyūptisamarthana*²⁶). He says (p. 104): In the *drṣṭānta* you grasp the concomitance of elements that are contained in it (i.e. in the *drṣṭānta*); in the *pakṣa*, however, you grasp the concomitance indicated by the *hetu*. And this (concomitance) is based on generality for it summarizes everything (i.e. all the general relationships between the *hetu* and the predication of the probandum). The function of this generality is to be realized and applied to the subject of the probandum by means of inference.

In the further part of his treatise, Ratnākara sums up the function of an inference and, at the same time, presents the difficulty in applying the *drṣṭānta*, in its isolated scope, to the probandum. He sees no necessity of using one complete implication (*drṣṭānta* here = universal proposition) to prove another (viz. *sādhya*). He seems to be near to anticipation of the simple truth, which is so obvious from our point of view, namely, that once the general relationship is established as a result of inductive reasoning, the *sādhya* and the *drṣṭānta* are merely two different inferences based on the same general relationship. The fact is, that it is a mere matter of choice what one substitutes for (*x*) in (*x*)*p*, whether it is *drṣṭānta* or *sādhya*. In the implication 'if (*x*)*p* then (*x*)*q*' it makes no difference whether one substitutes for (*x*) the kitchen range or the mountain. This idea is intimated in Dharmakīrti's concept of *drṣṭānta*, on which he eventually com-

²⁴) *Anumānaparīkṣā* 1432—3 and Kamalaśīla's commentary. A reference to the *Pramāṇasamuccaya* IV, 1 is also made.

²⁵) Ibidem.

²⁶) Bibliotheca Indica, New Series, 1226, 1910, pp. 103—114.

promised, accepting, where necessary, two substitutes for (x) in one syllogism. Exactly the same view is to be found in the *Antarvyāptisamarthana* where the inner concomitance without *dr̥ṣṭānta* is admissible for probanda like *kṣaṇikatva* which form a class in themselves, but a *dr̥ṣṭānta* may be used for probanda which have a class of *sapakṣa*.