# 'Antarvyāpti' Interpreted in Jainism

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The term "antarvyāpti" used in the syllogism of Jaina logic is, together with the opposite term "bahirvyāpti", found in the Jaina and the Buddhist texts alone. Among scholars, there is a great divergence of opinions on the first user of the term. To the best of my understanding, the Nyāyāvatāra of Siddhasena Divākara (the 8th century)\* was the first to use the term. The Nyāyāvatāra (abbr. NyA), a short manual of Jaina logic cast in 32 verses, mentions the antarvyāpti immediately after two verses treating two kinds of dṛṣṭāntas.

antarvyāptyaiva sādhyasya siddher bahir-udāhṛtiḥ {
vyarthā syāt tad-asadbhāveʻpy evam nyāya-vido viduḥ ||20||

[Running rendering] When the establishment of probandum (sādhya) is secured exclusively by internal variable concomitance (antarvyāpti), the citation of external example (bahir-udāhṛti) will be useless. And such will also be the case even when internal concomitance is absent (or unknown). Thus say those who are conversant with logic.

The NyA has a sole commentary Vivṛti by Siddharṣi (c. A. D. 906) and it has a sub-commentary Ṭippaṇa by Devabhadra (the latter half of the 12th century) scarcely referring to the verse under consideration. Among the subsequent Jaina works which developed the theory of antarvyāpti on the basis of the NyA and the Vivṛti are: the Pramāṇanayatattvāloka (abbr. PNT) by Devasūri (1080-1169), its auto-commentary the Syādvādaratnākara (abbr. SyR), its abridged commentary the Ratnākarāvatārikā (abbr. RaA;

<sup>★</sup> Siddhasena Divākara, as recent researches show, was not the author of the *Nyāyāvatāra* but of *Nayāvatāra*. He was either Siddharṣi alias Siddhasena (late 9th - early 10th cent.) or may be some other pre-medieval Siddhasena. — *Editors*.

by Ratnaprabha)<sup>+</sup>, and the Pramāṇamīmāṁsā (abbr. PrM) by Hemacandra (1089-1172). The description of antarvyāpti in the NyA has been taken over in the PNT almost *ad verbatim*, yet it may hardly be possible to grasp the meaning of the verse without the help of commentaries. It is due to the ambiguity of the expression that came to allow different interpretations about the verse.

Though the idea of antarvyāpti took its rise in Jainism, it is a wonder that the term itself disappeared in later Jaina works. However, Ratnākaraśānti of the later Buddhist logic employed this term antarvyāpti. His way of using the antarvyāpti is somewhat different from that of Jainism and it is, as it were, a modified "kevalānvayi" inference of the Nyāya-Vaiśesika school.

1

This thesis aims at having a general look at the Vivṛti and later Jaina works in order to clarify the purport of Siddhasena's antarvyāpti. Before entering the main issue, I would like to give an outline of the syllogistic form of Indian logic and my opinion of antarvyāpti.

Technical terms used for the definition of antarvyāpti will be understood in the following way. Antah (internal example) indicating pakṣa or the subject of argument, and vyāpti residing in the antah is antarvyāpti. Opposite term for "antarvyāpti" is "bahirvyāpti" (or bāhyavyāpti : external invariable concomitance), residing in the bahiḥ. The bahiḥ (external example; the basis other than pakṣa) refers to the twofold example, which is to be cited as the third member of the syllogism. When one accepts the function of the antarvyāpti, the mention of bahir-dṛṣṭānta (the external example) as well as of bahirvyāpti (external variable concomitance) is cumbersome. That is, the external example (bahih) is useless.

Inference is divided into two: inference for oneself (svārthānumāna) and inference for others (parārthānumāna). The former, being useful for oneself and primarily non-verbal, functions in one's consciousness only. That is, inferential knowledge of probandum (sādhya), secured by the cognition of probans (hetu; smoke) and of invariable concomitant

<sup>&</sup>lt;sup>+</sup> He was the disciple of Devasüri of Bṛhad-gaccha. The date of Ratnākarā-vatārikā is c. A. D. 1165. — Editors.

(vyāpti). The latter, however, primarily verbal (vacanātmaka) in nature, being useful to convince the opponent (prativādin) of the knowledge of the probandum (sādhya). But each school of Indian logic came to tend to decrease the number of syllogism in later times, though such decrease depends on the faculty of opponents.

(i) pratijñā (argument) : the mountain has fire,

The argument itself is called paksa, and the subject (mountain) is also called paksa. Fire which is predicate of the argument is called probandum (sādhya), and the mountain possessing fire (dharmin; Sp) is sometimes sādhya.

(ii) hetu (reason): because of smoke.

Generally "reason," which enables one to obtain the inferential knowledge, is expressed by the ablative case of hetu (e.g. smoke) as a phrase. It is also called sādhana or sādhaka.

However, how does the opponent (prativadin) act upon hearing pratijna and hetu succeedingly? Does he not show any effect or response, saying to himself "what about smoke?" It may be because he does not know invariable concomitance (vyāpti) between smoke and fire, or he may come to know the vyāpti only after he is shown any example like a kitchen. [Three cases, on the part of the opponent, will be introduced later.]

If the opponent is, after hearing the hetu, aware of the fact that there is fire wherever smoke occurs, he is compelled to construct in his mind the idea of vyāpti. However, this vyāpti is not expressed verbally by either the speaker (vādin; instructor) or the opponent (prativādin). This vyāpti is not installed in the syllogism as an independent member, though happening after the two members. Some are of the opinion that this vyāpti is included in the third member "udāharaṇa" (or dṛṣṭānta), but I do not accept this opinion. For dṛṣṭānta should be literally an instance of basis on which to affirm the vyāpti. However, the pakṣa (subject of the argument; e.g. mountain) eventually comes to be regarded as the locus of the vyāpti, and the inference finishes. Thus any school of Indian logic beginning with the Nyāya-Vaiśeṣika generally accepts the dṛṣṭānta as any locus outside the pakṣa, but does not consider the pakṣa to be a dṛṣṭānta.

There is almost no material referring to the function of dṛṣṭānta, but it is used as the third member, convincing the [dull-minded] opponent of the locus of vyāpti which comes from the preceding two members. The ambiguous character of the dṛṣṭānta is originally derived from other reasons, which will be referred to later.

However, is the dṛṣṭānta an indispensable member to the opponent of slow understanding in the inference for others? I shall show some instances of establishing the probandum (inferential knowledge) even without the help of dṛṣṭānta.

- (1) In the three-membered syllogism of Western logic, the major premise (equivalent to vyāpti; M P) and the minor premise (roughly equivalent to pakṣadharmatā; S M) are necessary for acquiring the conclusion (inferential knowledge; S P), dispensing with any example.
- (2) In the case of Indian logic, later Buddhism, the Mīmāmsaka, and the Śāṅkara-Vedānta accept vyāpti (hetu → sādhya) and pakṣadharmatā (hetu → pakṣa) only for acquiring inferential knowledge, omitting dṛṣṭāna. [The antecedent here is meant to occur in the consequent.]
- (3) The Nyāya-Vaiśeṣika accepts parāmarśa by combining the abovementioned two elements into one. That is, vyāpti-viśiṣṭapakṣadharmatā-jñānam (the knowledge of pakṣadharmatā possessed of vyāpti).

As has been shown above, to accept the existence of the vyāpti in the antaḥ (pakṣa) exclusively is antarvyāpti, without approving of the function of bahiḥ and bahirvyāpti as the main cause (gamaka) of inferential knowledge.

## <dṛṣṭānta>

Dṛṣṭānta (or udāharaṇa), the third member of the syllogism, was originally set forth in the Nyāyasūtra (abbr. NS) and the Nyāyabhāṣya (abbr. NBh), and was quite different in nature from what generally has been understood in later schools of logic.

In the NS and the NBh, the dharmin of pratijñā (e.g. mountain) is compared with either homogeneous example (e.g. kitchen) or heterogeneous example (e.g. pond) by virture of sādharmya (e.g. smoke) or vaidharmya (e.g. ~smoke) between the two (dharmin and dṛṣṭānta), one analyses in the dharmin fire. Inference in the NS and the NBH is, strictly speaking, not inference, but analogy in nature, and has nothing to do with vyāpti in the process of thinking.

- NS l.i.34: Whatever establishes the probandum (Sp or p), on the basis of the similarity with the [homogeneous] example (in accordance that probandum possesses similarity with the example) is the probans (hetu; M).
- NBh l.i.34: Whatever establishes the probandum i.e., dharma (S or Sp) in accordance with the similarity with the example is probans (hetu, smoke). By perceiving a certain dharma (e.g. smoke) in the probandum (subject; mountain) and the same dharma in the example (e.g. kitchen), what describes that it (smoke) establishes the probandum (Sp or P) is probans (hetu).

[Comment] According to the NBh, probandum (sādhya) is used in two ways, by indicating first S, and then Sp or P.

- NS 1.1.35: In similar manner, whatever establishes the probandum (Sp or P) is the probans (hetu), on the basis of the dissimilarity with the [heterogeneous] example (e.g. pond) (in accordance that probandum (mountain) does not possess similarity with example).
- NS I.i.36: On the basis of the similarity with probandum (sādhya; dharmin; S, mountain), whatever things possess the dharmas (e.g. smoke) of the probandum (mountain) is [homogeneous] example.
- NS l.i.37: On the basis of the dissimilarity with probandum (sādhya; dharmin; S, mountain), whatever things possess things other than the dharmas (e.g. smoke) of the probandum (mountain) is [heterogeneous] example.

П

NyA, Vivrti

Here a summary of Vivrti will be introduced.

<The purport of the NyA> based on Vivrti:

- (1) When the opponent remembers the Vyāpti, since the probandum (sādhya) is established by antarvyāpti (vyāpti in the pakṣa), external example (bahiḥ) is useless to mention.
- (2) Even when the vyāpti is not known to the opponent, since antaryāpti is absent (or not known) external example (bahiḥ) is useless to mention. Thus the expert on logic says. (20)

<Vivrti>

[Running rendering] When the opponent forgets the vyāpti, example is mentioned for him. Otherwise (if he does not forget the vyāpti) it is not the case (example is not mentioned). "Otherwise" means (1) the opponent remembers the vyāpti (is versant with the vyāpti) or (2) he is ignorant of the vyāpti. In the case (1), the example is not mentioned. For when the opponent remembers the hetu (probans) which is avinābhāvin of the probandum (inseparable from probandum), he knows the probans (hetu) in the pakṣa also. He necessarily comes to know the probandum in the pakṣa.

Thus the vyāpti in antaḥ (pakṣa) establishes invariably probandum, and the vyāpti outside the pakṣa (bahirvyāpti) is useless to mention. In the case (2), antarvyāpti is either absent or unknown and it is useless to mention the "bahiḥ" (external example). For an observation of the coëxistence in a certain place cannot entail the establishment of the vyāpti (coëxistence) in all places, vyabhicāra being observable. Thus when the opponent (student; prativādin) is ignorant of the vyāpti, the vyāpti is first to be grasped by means of tarka (as pramāṇa), and then comes the sādhya-siddhi.

[Comment] According to the Vivrti, the opponents are divided into two groups, and example is considered useful or useless in conformity to these divisions:

I. One who forgets the vyāpti (vismrta-sambandha)

External example is useful to mention.

- II. One who does not forget the vyapti (avismṛta-sambandha)
  - (a) One who remembers the vyāpti (smaryamāṇa-sambandha)
    External example (or external vyāpti) is useless, since the antarvyāpti here functions.
  - (b) One who is ignorant of the vyāpti (agṛhīta-sambandha)

Pramāṇa "tarka" is first necessary to enable the opponent to know the vyāpti. So bahirvyāpti is useless, and antarvyāpti does not function.

Vivṛti regards antarvyāpti as principal. It rather neglects bahirvyāpti, than regards it as subordinate. In accordance with antarvyāpti under varied conditions, bahirvyāpti is taken cumbrous or impossible and eventually useless (vyartha). Even in the case (1), the Vivṛti does not even refer to the dull-minded opponent. Vivṛti's view-point may be diagrammed as follows: [O = obtainable, \* = unobtainable]

- (I) The first "useless"
  - (a) antarvyāpti (O) bahirvyāpti (O) cumbrous useless
  - (b) antarvyāpti (O) bahirvyāpti (X) impossible useless
- (II) The second "useless"
  - (c) antarvyāpti (X) bahirvyāpti (X) impossible useless

## <Vivrti> Rendering

As for the problem under consideration, the NyA does not describe directly remaining members "upanaya", "nigamana", and "corroborative five members", because this treatise aims at brevity, yet they may be conjectured by the sharp-minded on the basis of the described those members. For so far as the form and the number of members are concerned, the description may be divided into three: the lowest (jaghanya; simple), the middle (madhyama; ordinary) and superior (utkrsta; detailed). The lowest is the description of the hetu only, the middle is the description of two members and so forth, and the superior is the description of all the ten members. Here the middle description of members are described directly, and the lowest (simplest) and the superior (detailed) descriptions of members are indirectly suggested, because there is proof.

[Comment] Though three kinds may be based on the form and number, these three kinds may be applicable to opponents' intelligence in the reverse order. "Śuddhi" (corroboration; correctness) in the five corroborative members such as "pratijñā-śuddhi" etc., is referred to by the NBh and the Nijjutti of Bhadrabāhu (5th cent. A. D.). Five members being added by five corroborative members, they may have eventually accepted tenmembered syllogism. It is doubtful whether ten members withstood the practical use.

Ш

Later Works: PNT (SyR, RaA), PrM

After the Vivṛti's opinion, I would like to introduce antarvyāpti's theory taught in the later Jaina works. The NyA and the PNT are substantially almost the same. In the NYA primary cause of "sādhyasiddhi" (inference) is antarvyāpti, while in the PNT it is the probans (hetu) and the sub-cause is regarded as antarvyāpti. In the PNT the term "bahirvyāpti" appears for the first time. [It is worth to note the next points. In the later Nyāya school the karaṇa of inferential knowledge has undergone change in the following order: hetu  $\rightarrow$  vyāpti  $\rightarrow$  vyāpti-jñāna  $\rightarrow$  parāmarśa.]

When, on the basis of antarvyāpti, the probans (hetu) can or cannot establish the probandum (sādhya), it is useless to mention the bahrvyāpti. (antarvyāptyā hetuḥ sādhya-pratyāyane śaktāśaktāu ca bahirvyāpter udbhāvanam vyartham iti //111.37//)

<syR Rendering>

If the probans establishes the probandum, based on antarvyāpti exclusively, bahirvyāpti is useless. [It mentions three examples.]

- (I) <pratijñā> "Here is fire." (asty atrāgniḥ)
  - <vyāpti> "Where there is fire, there only exists (is intelligible).
    - (saty-evāgnau dhūmopapattiḥ)
- (II) < pratijñā > "That my son is speaking outdoors" (mat-putro 'yam bahir-avasthito vakti)
  - <vyāpti> "Otherwise such voice is unintelligible." (anyathaivam
    bhūta-svarāupapattih)

When by only using such either <tathopapatti> (positive vyāpti) or <anyathā-nupapatti> (negative vyāpti), sharp-minded (vyutpanna-mati) opponent can establish probandum (inference).

(III) < pratijñā > "This woman's unborn baby is a boy." (etasyāḥ strio garbhātyaṁ pumān)

<hetu> "because of being her baby." (etad-apatyatvāt)

<drstānta> "Like other babies who are known as boys."

(prasiddha-pumstvetatarāpatyavat)

For in these examples, even if in the presence of bahirvyāpti antarvyāpti is not obtainable, probans (hetu) is not considered to be the main cause (gamaka) of the probandum (inferential knowledge).

In the third example, "saty-eva pumstve etat-apatyatvāt" should be valid probans (hetu). So, such valid antarvyāpti is doubted. Bahirvyāpti produced from such doubt, though determined, cannot produce anything (useless).

[Comment] I would like to test three examples one by one. Syllogisms mentioned in the first two examples are right. In the first example, hetu "smoke" is here omitted. The vyāpti <tathopapatti> being reducible to the form <hetu \(\to\$ sādhya> is antarvyāpti, residing in the pakṣa (here; mountain?). Here antarvyāpti being taken as principal, instructor (vādin) didn't dare to mention dṛṣṭānta. Since the hetu (probans) is gamaka of inference, bahirvyāpti is useless so far as the form is concerned. It is a good example to show how antarvyāpti or bahirvyāpti functions in accordance with the absence of the presence of dṛṣṭānta, in relation to two syllogisms having two members in common.

In the second example, vyāpti being shown in the form <-sādhya > ~hetu> is <anyathānupapatti> (negative vyāpti). <~hetu> is "otherwise unintelligibility of such voice" (anyathā evambhūta-svarānupapatti), and <-sādhya> is "if he is not speaking outdoors" (bahir-vacanābhāva). Here any heterogeneous example is purposely neglected, and accordingly bahirvyāpti is not mentioned. Thus antarvyāpti existing in the pakṣa is functioning, the hetu is gamaka of inference.

In the third example, the hetu is apparently "asiddha-hetu" as well as "sopādhika-hetu", and this hetu is not the cause (ghaṭaka) of inference.

If one is forced to say, the valid hetu should be "being boy" and "being her baby." Thus bahirvyāpti is useless.

## <RaA Rendering>

(In the beginning of the RaA is mentioned a verse, which is a compromise between the NyA (20) and the PNT (111.37). The maincause of inferential knowledge is considered to be antarvyāpti, and the term "bāhya-vyāpti" is mentioned instead of "bahirvyāpti.)

antarvyāptiḥ sāddhya-śaktau bāhyavyāpter varṇam vandhyam eva | antarvyāptiḥ sāddhya-āśaktau bāhyavyāpter varṇam vandhyam eva ||

When on the basis of antarvyāpti the establishment of probandum is possible, the mention of bāhyavyāpti is useless. When on the basis of antarvyāpti the establishment of probandum is impossible, the mention of bāhyavyāpti is useless.

(Like the SyR, the RaA mentions two examples.)

- (I) <pratijñā> "That my son is speaking outdoors" (mat-putro 'yam' bahir avasthito vakti)
  - <vyāpti> "Otherwise such voice is unintelligible." (anyathaivam bhūta-svarāupapattiḥ]

In this case though bahirvyāpti does not exist, antarvyāpti is accepted as gamaka of inferential knowledge.

In this case, however, even though bahirvyāpti exists, it is not regarded as the main cause (ghaṭaka) of inferential knowledge. [Comment] The first example is the same as the second one of the SyR. The second example is almost the same as the third one of the SyR. In the first example, the description seems misleading. Bahirvyāpti (vyatireka-vyāpti) and heterogeneous example do exist, though they are not described obviously.

<Antarvyāpti and bahirvyāpti defined by PNT>

PNT further describes two kinds of vyāpti (111.38, 39).

Invariable concomitance of the hetu (M) with the sādhya (P) existent in the very object which is considered pakṣa (S) is antarvyāpti. On the other hand, invariable concomitance existent elsewhere is bahirvyāpti. (pakṣi-kṛta eva viṣaye sādhanasya sādhyena vyāptir antarvyāptiḥ; anyatra tu bahirvyāptiḥ)

[Comment] Vyāpti being synonymous with vyāpyatā, it is a nature or a relation possessed by a pervaded (vyāpya). Therefore I translated "hetu's vyāpti with sādhya" etc.

## For example:

(1)	<pratijñā></pratijñā>	"Entity (vastu) is made up of many natures." (vastu anekāntātmakam)
	[ <hetu></hetu>	"Because it is sat." (sattvāt) This is not expressed.]
	<vyāpti></vyāpti>	"Only when the entity is of many natures (sādhya), then sattva (hetu) is intelligible." (tathopapatti)
(II)	<pratijñā></pratijñā>	"This place has fire." (ayam deśo'gnimān)
	<hetu></hetu>	"Because it has smoke." (dhūmavattvāt)
	<vyāpti></vyāpti>	"Whatever possesses smoke has fire." (sa evam sa evam)
	<dṛṣṭānta></dṛṣṭānta>	"Like a kitchen" (yathā pākasthānam)

[Comment] These two examples show antarvyāpti and bahirvyāpti respectively.

Syllogism (1) is lacking in dṛṣṭānta, because entity (vastu) is highest connotation being synonymous with existent (sat) in Jainism. The sādhya is <anekāntātmakatva> and the hetu is <sattva>, and the vyāpti holding between such two notions is nothing but antarvyāpti, residing in the pakṣa (= vastu) only and not elsewhere.

Syllogism (2) is equipped with three members: pratijñā, hetu, dṛṣṭānta, and positive-vyāpti existent in the outer example (bahirdṛṣṭānta), i.e., kitchen is bahirvyāpti.

#### <The case of PrM>

Antarvyāpti has much to do with dṛṣṭānta. Hemacandra in PrM first defined dṛṣṭānta in three sūtras, discussed it in his own commentary and concluded that it is by no means indispensable to inference, and eventually referred to antaryāpti.

"Dṛṣṭānta is not the cause (aṅga) of inference" (1.ii.18).

"Because inferential knowledge is established by the probans (sādhana) exclusively" (1.ii.19). For inferential knowledge is produced from the cause (sādhana; hetu) which lacks drstānta and is inseparable from probandum (sādhya). So drstānta is by no means the cause of inference. For, drstānta is mentioned for the purpose of (1) getting the knowledge of the probandum, or (2) getting the knowledge of the vyāpti, or (3) making the opponent remember the vyāpti? It is not the case (1), because the establishment of the probandum is secured by the above-mentioned probans (hetu) exclusively. And it is not the case (2), because the knowledge of the vyāpti is produced from the denial (exclusion) of the hetu in the heterogeneous example (vipaksa; vyatireka; what has not the probandum). And any drstānta is individual. How can individual drstānta totally communicate us the general vyapti? For other cases of vyapti, another vyapti is to be sought. Since that drstanta is also individual in nature, the decision of the whole is impossible, because drstanta being sought one by one may lead to regressus ad infinitum. And it is not the case (3). For those who are familiar with the vyāpti, the vyapti is to be remembered at the sight of the probans (hetu). For those who are ignorant with the vyāpti, the vyāpti cannot be remembered even at the sight of drstanta. For remembrance presupposes previous knowledge (fire) smoke: ~fire)~smoke).

"Dṛṣṭānta is the basis on which to show the opponent the vyāpti" (1.ii.20)

[Question] If the dṛṣṭānta is not the cause of the inferenial knowledge, why do you dare to give it a definition?

[Answer] For in order to satisfy the opponent's wish in the inference for others, exceptional dṛṣṭānta will be allowed. And even in the field of inference for oneself, the definition of dṛṣṭānta is not entirely inappropriate in view of the fact that there may be a person who is helped to arrive at the knowledge of antarvyāpti from the observation of bahirvyāpti found in an example.

[Comment] it is the NS that showed the general definion of dṛṣṭānta. However, the dṛṭānta of later product in other schools being quite different in nature, is necessarily connected with the vyāpti. The definition of dṛṣṭānta

was hardly touched by Jaina and Buddhist texts, with an exception of Hemacandra and Devasūri. Frankly speaking, antarvyāpti is the vyāpti which is accepted directly in the pakṣa, not through the medium of any dṛṣṭānta.

#### IV

The Naiyāyikas accept three lingas, upon which they put forth conventionally three kinds of inference. Among these is "kevalānvayi anumāna". It is explained in the Tarkasamgraha (\* 48) as follows:

The linga which has vyāpti only positively (anvayenaiva) is called "kevalānvayi linga". For example, "A pot is nameable (abhidheya)". "Because of knowableness (prameyatva)" "Like cloth (paṭavat)", In this case, between the probandum (= abhidheyatva) and the probans (prameyatva) there is no negative vyāpti, because all things are nameable as well as knowable.

In the Naiyāyika's tradition, dṛṣṭānta cannot be pakṣa, and when the pakṣa happens to be all things indicated by <sat> <sarva> <padārtha> etc., any dṛṣṭānta is not obtainable. In the above syllogism, the Naiyāyika might have purposely limited to "pot" etc. as the subject instead of <sat> or <sarva>. in order to evade the difficulty of unavailability of dṛṣṭānta. In the above-mentioned example (PNT 111.39) "sat is made up of many natures" will be considered to be a modified syllogism of the Naiyāyika's "kevalānvayi anumāna". Ratnākarśānti, a later Buddhist logician, holds antarvyāpti's doctrine for interpreting kṣaṇa-bhaṅga. That is, in the argument "Everything is momentary (Vastu kṣaṇikam)" he could not but seek for vyāpti in the pakṣa i.e., antarvyāpti. As has been explained, the establishment of probandum is eventually secured by confirmation of the vyāpti in the pakṣa. However, this problem being quite different in nature from the question whether antarvyāpti or bahirvyāpti, here will not be taken into consideration.

To sum up,

- (1) When vyāpti is sought in the pakṣa, without accepting dṛṣṭānta as a member, antarvyāpti functions.
- (2) When vyāpti is sought in the dṛṣṭānta, bahirvyāpti operates. (in order to make the opponent of slow understanding remember the vyāpti.)
- (3) Even in two similar syllogisms (e.g. of smoke and fire), a) when it is furnished with dṛṣṭānta bahirvyāti functions (PNT 111.39, the second

example), b) when it lacks dṛṣṭānta antarvyāpti functions (SyR the second example).

- (4) Syllogism is lacking in dṛṣṭānta,
  - (i) because it is dependent on the prativadin's arbitrary (in accordance with the opponent's faculty), and not necessarily determined physically.
  - (ii) when positive vyāpti is unobtainable (SyR the second example, RaA the first example).
  - (iii) when the pakṣa happens to be 'sarva', 'sat' etc., indicating the highest connotation (PNT 111 39, the first example; Buddhist's antarvāpti-theory).

