

LOGIC

7 works of Dharmakīrti (circa 600-660 CE)

The first five are in order of composition; the chronological sequence for the Sambandha^o and Saṃtānāntara^o being more obscure.

- 1 Pramāṇavārttika PV (possibly preceded by an earlier work on logic with which it would be integrated and which becomes the Svavṛtti and first chapter of PV)
- 2 Pramāṇaviniścaya PVi
- 3 Nyāyabindu NB
- 4 Hetubindu HB
- 5 Vādanyāya VN

Sambandhaparīkṣā SP, Saṃtānāntarasiddhi SS

Glossary (rough and ready!)

"logical validity" = conclusion must be true *if* the premises are true. Guaranteed truth conservation. E.g. All morons are fitting to be president. W is a moron. W is fitting to be president. (Note that it was the previous Canadian Prime Minister, Jean Chrétien, who characterized W as a moron, not me!)

"soundness" = logical validity and true premises.

"cognitive and rhetorical factors" = additional informal elements necessary for an argument to be persuasive.

"rhetoric" = art of persuasion.

"material implication" = If A then B.

"necessary implication" "necessary connexion" (cf. "certainty") = one thing *must* be so if another is so. Necessarily, if A then B.

"universal quantification", " $(x)Fx$ " = For all x, x has property F.

"existential quantification", " $(Ex)Fx$ " = There is an x such that x has property F.

"monotonic / non-monotonic inferences" Inferences with or without guaranteed truth conservation. E.g. Socrates is a man; all men are mortal; therefore Socrates is mortal (monotonic). Tweety is a bird; typically birds can fly; therefore Tweety can fly (non-monotonic).

ANU = anumeya

L = liṅga

NP = noun phrase

S = qualificand (viśeṣya), subject

P = qualifier (viśeṣaṇa), predicate

PS = Pramāṇasamuccaya of Dignāga.

V = verb

¬ = "not", e.g. ¬F = not-F

1. trairūpya (triple characterization [of logical reasons])

NB II, 5: trairūpyam punar liṅgasyānumeye sattvam eva sapakṣa eva sattvam asapakṣe cāsattvam eva niścitam. "The triple characterization [of the reason] is

moreover as follows: It is ascertained that there is (1) complete/full (eva) presence of the reason in the [subject] to be inferred (anumeya), (2) presence [of the reason] in only (eva) similar instances (sapakṣa), and (3) complete (eva) absence [of the reason] in the dissimilar instances (vipakṣa)"

"Cognitive and rhetorical factors", i.e., niścita (ascertained), ubhayaprasiddha ([terms] recognized by both parties), jijñāsā ([the opponent's] desire to know)

2. pakṣadharmatva (the fact that [the reason] is a property of the subject)
anvayavyāpti (positive concomitance)
vyatirekavyāpti (negative concomitance)

3. NB II, 7: sādhyadharmanasāmānyena sāmāno 'rthaḥ sapakṣaḥ
"sapakṣa (similar instances) are those things which are similar [to the subject] on account of [possessing] the universal which is the property to be proved."

asādhāraṇānaikāntikahetu (a reason which is inconclusive due to being [too] specific") E.g. sound is impermanent because it is audible.

4. svārthanumāna (inference-for-oneself)
parārthanumāna (inference-for-others)

PS III, k. 1: parārtham anumānam tu svadṛṣṭārthaprakāśanam /
tatrānumeyanirdeśo hetvarthaviśayo mataḥ //
"An inference-for-others, however, elucidates the state of affairs (artha) which [the proponent] has understood himself (svadṛṣṭa). There, the presentation of the inferendum (anumeyanirdeśa) is held to have the goal of the reason as its object (hetvarthaviśaya)."

NB III, 1: trirūpalingākhyānam parārthanumānam. "An inference-for-others is a statement of a triply characterized reason."

5. a) What does it mean for a reason to be valid? I.e., what are the necessary and sufficient conditions? What is the defining characteristic (lakṣaṇa)?

b) How can we come to know for sure that a reason is valid? What watertight justification is there for saying it is valid? What tests do we apply to be able to say that?

Two rival conceptions of trairūpya:

Dignāga

The trairūpya as only a series of heuristic tests for being able to *reasonably think* that there is vyāpti and pakṣadharmatva. ("epistemic version") Cf. Mark Siderits: "the consideration of sapakṣa and vipakṣa reflects purely epistemic concerns" p. 309

in "Deductive, Inductive, both or neither", Journal of Indian Philosophy 31, 2003
Consequence: the traірұpya's vyāpti and pakṣadharmatva formulations would not be
equivalent to the two corresponding statements in the parārthānumāna.
traірұpya solves problem b) but at the price of fallibility. adarśanamātra. traірұpya
may be satisfied and proposition to be proved is still false.

Dharmakīrti

traірұpya as giving necessary and sufficient conditions for there being vyāpti and
pakṣadharmatva and hence guaranteed truth of the proposition being proved.
Consequence: traірұpya harmonizes perfectly with parārthānumāna.
traірұpya tries to solve problem b) by introducing niścita into each characteristic;
svabhāvapratibandha.

6. Universal and Existential quantification.

viśeṣaṇa (P) + eva = ayogavyavaccheda (elimination of non-connection)

E.g., Caitra dhanurdhara eva. Caitra is fully/really an archer. (x)(If Sx then Px).

NP(s) + NP(p) + eva + V

viśeṣya (S) + eva = anyayogavyavaccheda (elimination of connection with
something else)

E.g., Pārtha eva dhanurdharaḥ It is only Pārtha who is the archer. (x)(If Px then Sx).

NP(s) + eva + NP(p) + V

kriyā + eva --> atyantāyogavyavaccheda (elimination of complete non-connection)

E.g. nīlam utpalaṁ bhavaty eva. There actually is a blue lotus. (Ex)(Sx and Px).

NP(p) + NP(s) + V + eva.

7.

– anumeye (S) [liṅgasya] sattvam (P) eva. (x) (If ANU(x), then L(x))

– sapakṣe (S) eva [liṅgasya] sattvam (P). (x) (If L(x) then sapakṣa(x))

– asapake (S) [liṅgasya] asattvam (P) eva (x) (If ¬sapakṣa(x) then ¬L(x))

8. PV I, k. 1:

pakṣadharmas tadamśena vyāpto hetu tridhaiva saḥ /

avinābhāvaniyamād dhetvābhāsāś tato 'pare //

The reason, which is a property of the subject and is pervaded by the [predicate]
factor of that [subject], is of three sorts alone, for [it is in these three sorts of
reasons] that there is the certainty of a necessary connexion. Pseudo-reasons are
ones which are other than those [three sorts].

kārya (effect), svabhāva (essential property), anupalabdhi (non-perception).

svabhāvapratibandha (natural relation), tādātmya (identity), tadutpatti (causality).

9. Referential opacity.

E.g., Tillemans believes that the number of planets = four
the number of planets = 9

Tillemans believes that 4=9

Mr. X knows that sound is a product and doubts that sound is impermanent.
producthood = impermanence

Mr. X knows that sound is impermanent

Intensions, senses, essential properties.

10. PS III, 2: svarūpeṇaiva nirdeśyaḥ svayam iṣṭo 'nirākṛtaḥ /
pratyakṣārthānumānaprasiddhena svadharminī // [A valid thesis] is one which is
intended (iṣṭa) by [the proponent] himself (svayam) as something to be stated
(nirdeśeya) in its proper form alone (svarūpeṇaiva) [i.e., as a sādhyā]; [and] with
regard to [the proponent's] own subject (svadharmin), it is not opposed (anirākṛta)
by perceptible objects (pratyakṣārtha), by inference (anumāna), by authorities (āpta)
or by what is commonly recognized (prasiddha).

Sāṃkhya sophism: "The eyes are for the benefit of another because they are
composites, just like accessories such as a bed or seat."

11. PS I, 1: pramāṇabhūtāya jagaddhitaiṣiṇe praṇamya śāstre sugatāya tāyine /
pramāṇasiddhyai svamatāt samuccayaḥ kariṣyate viprasṛtād ikaikataḥ // Having paid
homage to him who has become authoritative (pramāṇabhūta), who seeks to benefit
the world (jagaddhitaiṣin), who is a teacher (śāstr), who is well-gone [to
enlightenment] (sugata), [and] is a protector (tāyin), I shall compose a compendium
[i.e., Pramāṇasamuccaya], uniting here my opinions scattered [in various treatises],
so that pramāṇas may be established.

tshad ma'i skyes bu

12. PV I, 215-216: pratyakṣenānumānena dvidvidhenāpy abādhanam /
dṛṣṭādṛṣṭārthayor asyāvisaṃvādas tadarthayoḥ //
A [treatise]'s having no visaṃvāda ("lies") [means that] there is no invalidation of its
two [kinds of] propositions concerning empirical and unempirical things by direct
perception or by the two sorts of inference either.

āptavādāvisaṃvādasāmānyād anumānatā /
buddher agatyābhīhitā parokṣe 'py asya gocare //
As authoritative words are similar in being avisaṃvāda, the understanding of their
imperceptible (parokṣa) object is also termed an inference, for [otherwise] there
would be no way [to know such objects]
dpyad pa gsum (triple analysis)

13. PV I, 217: heyopādeyatattvasya sopāyasya prasiddhitāḥ /
pradhānārthāvisamvādād anumānaṃ paratra vā //

Or, the principal point [viz. the four noble truths] is avisamvāda, for the nature of what is to be rejected and what is to be realized as well as the method is acknowledged. Therefore [the understanding arising from the Buddha's words can] be an inference in the case of the other things [i.e., radically imperceptible (atyantaparokṣa) objects].

14. PV I, 218: puruṣātīśayāpekṣaṃ yathārtham apare viduḥ /

iṣṭo 'yam arthaḥ śakyeta jñātum so 'tīśayo yadi // Some have considered [words] which depend upon a superior individual as being true. We would accept this point [that words of a superior individual are a pramāṇa], if such a superiority [of the person] could be known.

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APOHA

1. *parikalpitasvabhāva* (thoroughly imagined nature, kun brtags)
2. *paratantrasvabhāva* (dependent nature, gzhan dbang)
3. *sāmānyalakṣaṇa* (universals, spyi mtshan)
4. *svalakṣaṇa* (particulars, rang mtshan)
5. *anyāpoha* (exclusion of what is other, gzhan sel)
6. Bhāvivēka. *Madhyamakahrdayakārikās* (6th century CE)
7. Yogācāra
8. Dharmapāla (6th century)
9. Karl Potter on Buddhist nominalism's elimination of commitment to universals (taking the standard Indian example of a universal, i.e., cowness):

"Although it falsifies reality to describe it as having a certain positive character (e.g., cowness), it does not falsify [reality] to describe it as lacking a certain negative character (e.g., non-cowness)."

Bimal Matilal:

"Meanings, for Dignāga, are fictional constructions and they have a negative function ... to exclude the object from the class of those objects to which [the name] cannot be applied."

10. Kumārila
11. Uddyotakara
12. Hans G. Herzberger "Double Negation in Buddhist Logic", *Journal of Indian Philosophy* 3, 1975:3-16
13. *Pramāṇavārttika* III, k. 53:
bhāvadharmaṭvahanīś ced bhāvagrahaṇapūrvakam / tajjñānam ity adoṣo 'yam
"If it said that [universals, i.e., *apoha*] will lose their status of being properties of [real] entities, this is not a fault, for the cognition of the [universal] was preceded by an apprehension of the entity"
14. To this Devendrabuddhi comments (*Pramāṇavārttikapañjikā* P. 167b8-168a1:)

*gzugs la sogs pa mthong bas bsgos pa'i bag chags la brten nas rnam
par rtog pa skye ba na / rang nyid kyi gzung ba'i rnam pa la gzugs la
sogs pa'i rnam pa nyid du zhen pas 'jug pa de ltar na gzugs la sogs pa
mthong ba'i stobs kyi skye ba'i phyir dang / der zhen pa'i phyir dngos*

po'i chos yin no zhes tha snyad du bya s pa yin pa yin no // "When conceptual thought (*vikalpa*) arises in dependence upon tendencies (*vāsanā*) which were instilled due to one's having seen [particular] forms and so forth, it determines (*zhen pa = adhyavasāya*) apprehended images (*rnam pa = ākāra*) of its own as being the images of form and so forth and thus practically applies [to forms, etc.] In this way, [thought of form, etc., i.e., thought of the universal] arises [indirectly] due to the influence of seeing [particular] forms and so forth, and determines [its own images] to be those [i.e., real features of form], and therefore [for these two considerations] one does call [the universal] a property of the [real] entity."

Here is the idea: an *apoha*-universal *U* can be said to be a property of particulars *p1, p2, p3*, etc., because: (1) the thought of *U* is causally conditioned by tendencies imprinted on the mind by direct perceptions of *p1, p2, p3*, etc., these perceptions being in turn causally linked to *p1, p2, p3*, etc. (2) the mind can not distinguish between its own invented universal *U* imputed to entities and the entities themselves (which are particulars and actually lack *U*)

15. *ekapratyavamarśa* (same judgment, viz., thinking "This is an X", thinking "This too is an X, etc.)

16. In *Pramāṇasamuccayavṛtti* to *Pramāṇasamuccaya* V.36d, Dignāga says that the exclusion of other is what has the features usually attributed to real universals, viz. unity, permanence and application to each individual (*ekatvanityatvapratyekaparisaṃāpti*)